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Anton Chekhov (1860-1904)—Pioneer in Social Medicine

KENNETH DEWHURST*

In July 1904 a goods train from Germany rumbled across the Russian frontier and chugged its way across the interminable steppe to Moscow. In a truck incongruously labelled "For the Conveyance of Oysters" lay the corpse of Anton Chekhov, physician, sociologist, and man of letters. He had lately died at Badenweiler in the Black Forest at the early age of forty-four. Although his years had been few they had been packed with inexhaustible activity. His creative energy had found expression in various ways —from describing life in his stories and plays to actually transforming and reconstructing it. He had supervised his estate of over six hundred acres, built schools and roads, organised a Museum of Painting and Fine Arts, and had initiated the first biological station in the Crimea. In view of his many other interests it is often forgotten that he was primarily a doctor who continued to practise medicine throughout his life and still found time to make an important and original contribution to a branch of social medicine.

Anton Pavlovich Chekhov was born in 1860 at Taganrog on the Sea of Azov. He was the grandson of a serf who had purchased his freedom and that of his family for three thousand five hundred roubles, at the rate of seven hundred roubles a soul with one daughter added free for good measure! Grandfather Chekhov settled at Taganrog where he opened a "Colonial Stores" which failed to prosper during the tenancy of Anton's father, as a new railway diminished the importance of Taganrog as a port. The Chekhov family therefore sold out and moved to Moscow; but Anton, then only sixteen, stayed on at Taganrog High School and earned his own living by working as a tutor to the son of a wealthy family.

According to Magarshack[1] Chekhov had hoped to study medicine at Zürich, but lack of funds kept him in Russia; and in 1879 he enrolled as a medical student at Moscow University. He was disappointed at the air of dilapidation which pervaded the Uni-

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1 Magarshack, David. *Chekhov, a life.* London, Faber and Faber, 1952, p. 38.

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versity, and in "A Boring Story" he recalls its "gloomy corridors, grimy walls, bad lights and the depressing stairs, coat stands and benches," all of which, he adds, "have undoubtedly played an important rôle in the history of Russian pessimism."

The beginning of the eighties was a time of high political tension in Russia. Reaction was in full swing during Chekhov's student days, and the University was often the focal point of disturbances. Although he detested the reactionary régime and was present at several meetings of the revolutionary students, nevertheless Chekhov distrusted the genuineness of their extreme opinions, which is clear from a letter in which he foretells the political storm ahead.

> While our men and women students are undoubtedly fine and honest people, and while it is no less true that they are our hope and Russia's future, it is only necessary for them to grow up and become independent for our hopes and the future of Russia to go up in smoke.[2]

It is a pity that Chekhov's political views have latterly been distorted; they were consistently moderate and clearly embodied in his letter to a friend.

> I am not a Liberal, not a Conservative. . . . I should have liked to have been a free artist and nothing more—I regret that God has not given me the strength to be one. . . . I hate lying and violence in all their forms—the most absolute freedom, freedom from force and fraud in whatever form the two latter may be expressed, that is the programme I would hold to if I were a great artist.[3]

Whilst at the University Chekhov was still faced with the absolute necessity of earning money in order to pay his fees as well as contributing to his share of the family exchequer. As a result he turned to journalism. Throughout his student days he was able to gain an adequate income from numerous whimsical anecdotes which he dashed off at great speed for such humorous papers as "The Dragon Fly" and "The Alarm Clock." Between intervals of writing and finding a market for two or three stories each week, Chekhov worked hard at medicine which influenced him deeply and at an early age shaped his attitude towards life and the subjects of his many tales. But home conditions favoured neither study nor journalism.

[2] *Ibid.*, p. 56.

[3] Chekhov, Anton. *Letters of Anton Chekhov to his family and friends.* Translated by Constance Garnett. London, Chatto and Windus, 1920, p. 9.

I would write more [he informed his editor], but fate is this time against me. I write in most hideous circumstances. Before me is my non-literary work mercilessly whipping my conscience; in the next room howls the child of a relation who has come to stay with us; in the other room my father is reading aloud to Mother 'The Flaming Angel'—someone has wound up the music box and I can hear "Fair Hélène." [4]

At this stage in his career journalism was merely a means to an end. Chekhov had no intention of making writing a whole-time occupation as he was deeply interested in his medical work. "It is better," he writes, "to treat loathsome diseases than take money for vile stories sneering at drunken shopkeepers. . . . I shall plunge into medicine; there is salvation in it, although I do not behave myself as a medical man."[5]

About this time Chekhov began to keep a notebook which contains shrewd comments on some of the patients who came his way. The following entry referring to a neurotic middle-aged female (all too familiar to present-day practitioners) reveals his acutely developed psychological insight which was to prove a valuable asset in his dual rôle of physician and writer.

A woman imagines that she has a peculiar, exceptional constitution, whose ailments are different from other people's, and which cannot stand ordinary medicine. She thinks that her son is unlike other people's sons, that he is to be brought up differently. She believes in principles, but she thinks that they apply to every one but herself, because she lives in exceptional circumstances. The son grows up, and she tries to find an exceptional wife for him. Those around her suffer. The son turns out a scoundrel.[6]

As the time of his final medical examinations drew near, Chekhov was plagued with the thoughts of neglected study. The strain of having to support himself by writing in an overcrowded and disordered apartment, together with the more frivolous distractions to which medical students seem to be particularly susceptible, continued to induce an uneasy state of mind.

Woe is me! I have to study almost every subject from the beginning [he confided to his brother]. Besides the examinations (which are to come) there is my work on corpses, clinical work on the inevitable histories of morbi, visits to hospital. I work but feel my impotence. My memory for some things has become poor; I've got old, lazy, literature . . . smell of vodka, etc. I am afraid I'll slip in one of my exams.[7]

[4] Chekhov, Anton. *The life and letters of Anton Tchekhov.* Translated and edited by S. S. Koteliansky and Philip Tomlinson. London, Cassell and Co., 1925, p. 65.

[5] *Ibid.*, p. 63.

[6] Chekhov, Anton. *The note-books of Anton Tchekhov.* Translated and edited by S. S. Koteliansky and L. Woolf. London, Hogarth, 1921, p. 8.

[7] *Op. cit.* (note 4), p. 66.

His fears proved groundless, for in 1884 Chekhov was graduated M.D. and immediately afterwards went to Vaskresensk, a sleepy town in the Moscow province where he acquired some clinical experience at the Zemstvo Hospital at Chikino a few miles away. Later he moved on to Zvenigorod where he was director of the hospital for three months during a colleague's absence. In this temporary capacity Chekhov was an ex-officio member of the local council; he also carried out post-mortems, attended inquests, and gave expert evidence in court. Based on his Zvenigorod experiences are a series of short stories—"The Dead Body," "At the Inquest," and "The Siren."

In one of these tales Chekhov tells of his journey with a magistrate to ascertain the cause of death of a stranger found in a field. Two muzhiks were sitting beside a little fire guarding the body as they were bound to do until the authorities arrived. At the post-mortem examination Chekhov discovered that many ribs were broken; later, on questioning the peasants, he was shocked to learn that the body had been tossed high in the air by way of first aid.

In 1885 Chekhov was back again in Moscow where he had a large but unremunerative practice. To his uncle he writes:

> My medical work is progressing little by little. I go on steadily treating patients. Every day I have to spend more than a rouble on cabs. I have a lot of friends, and therefore many patients. Half of them I have to treat for nothing, but the other half pay me 3-5 roubles a visit—I need hardly say I have not made a fortune yet.[8]

During the following year Chekhov suffered from a second attack of haemoptysis, but he chose to ignore the gravity of his symptoms and plunged into medicine and short story writing with unfailing vigor. During these early years in practice his notebooks contain many shrewd medical comments. "There has been an increase," he writes, "not in the number of nervous diseases and nervous patients, but in the number of doctors able to study those diseases." (Koteliansky and Woolf, 1921.[9])

Chekhov practised medicine intermittently during the next two years whilst travelling widely in Russia: often he stayed with friends and wrote stories at a considerable speed as a means of livelihood. His first play, "Ivanov," was produced in 1887 and although only a partial success, it marked the starting point of his lifelong interest in the theatre. His medical knowledge did not lie

[8] *Op. cit.* (note 3), pp. 41-2.
[9] *Op. cit.* (note 6), p. 23.

fallow, for while staying with a family in the Crimea he helped the local doctor on her rounds.

> Her eldest daughter, a woman doctor—the pride of the whole family and a "saint," as the peasants call her, really is remarkable. She has a tumour on the brain, and in consequence of it she is totally blind, has epileptic fits, and constant headaches. She knows what awaits her and stoically, with amazing coolness, speaks of her approaching death. In the course of my medical practice I have grown used to seeing people who were soon going to die, and I have always felt strange when people whose death was at hand, talked, smiled, or wept in my presence; but here, when I see on the verandah this blind woman who laughs, jokes, or hears my stories read to her; what begins to seem strange to me is not that she is dying, but that we do not feel our own death and write stories as though we were never going to die.[10]

Between dashing off his stories Chekhov helped the other daughter of the house (also a doctor) in dealing with the daily hordes of sick peasants.

> Patients are a regular torture to her [he writes], and she is scrupulous to morbidity with them. At consultations we always disagree: I bring good tidings where she sees death, and I double the doses which she prescribes. But where death is obvious and inevitable my lady doctor feels quite in an unprofessional way. I was seeing patients with her one day at a medical centre; a young Little Russian woman came with a malignant tumour of the glands of her neck and also the back of her hand. The tumour had spread so far that no treatment could be thought of. And because the woman was at present feeling no pain, but would in another six months die in terrible agony, the doctor looked at her in such a guilty way as though she were asking forgiveness for being well and ashamed that medical science was helpless.[10]

By 1888 Chekhov's reputation as a short story writer was firmly established, for in that year he was awarded the Pushkin Prize of the Moscow Academy. When his literary labours allowed him the time, he still practised medicine, much to the annoyance of A. S. Suvorin his editor, who urged him to devote himself entirely to literature. But Chekhov's reply showed that he had still no intention of deserting medicine.

> You advise me not to hunt after two hares, and not to think of medical work. I do not know why one should not hunt two hares even in the literal sense. . . . I feel more confident and more satisfied with myself when I reflect that I have two professions and not one. *Medicine is my lawful wife and literature is my mistress.* When I get tired of one I spend the night with the other. Though it's disorderly, it's not so dull, and besides neither of them loses anything from my infidelity. If I did not have my medical work I doubt if I could give my leisure and spare thoughts to literature. There is no discipline in me.[11]

[10] *Op. cit.* (note 3), pp. 86-7.
[11] *Ibid.*, p. 99.

In 1890 Chekhov came across some books on the Russian penal system whose revelations filled him with disgust and inspired him with the campaigning ardour of a reformer. Some years earlier Kennan had disclosed to the world the barbarity of the Siberian convict system, so Chekhov, in his turn, decided to carry out his medico-sociological survey on Sakhalin Island across the Gulf of Tartary in the Sea of Okhotsk. Immediately he set about studying every aspect of this Russian "Devil's Island" and confided his intentions in a letter to Suvorin:

> I want to write some 100-200 pages, and do something however little, for medical science, which, as you are aware I have neglected shockingly. . . . Except Australia in the past and Cayenne, Sakhalin is the only place where one can study colonisation of convicts; all Europe is interested in it and is it no use to us? . . . Sakhalin is a place of the most unbearable suffering of which man free and captive is capable. Those who work near it and upon it have solved fearful, responsible problems and are still solving them. . . . From the books I have read and am reading it is evident that we have sent millions of men to rot in prison, have destroyed them—casually without thinking, barbarously; we have driven men in fetters through the cold ten thousand versts, have infected them with syphilis, have depraved them, have multiplied criminals and the blame for all this we have thrown upon the gaolers and red-nosed superintendents.[12]

We are, perhaps, too apt to associate Chekhov's name with his helpless and baffled "dramatis personae," and it is therefore refreshing to note his tremendous energy and practical ability in overcoming the problems and hardships entailed in such a vast sociological survey. The Trans-Siberian Railway did not then exist, and he set off in April 1890 in a horse-drawn gig on the first stage of this journey of nearly three thousand miles. It took six weeks to cross Siberia along roads punctuated by large potholes, which on one occasion caused his gig to overturn. In the ensuing mêlée he was almost trampled upon by a team of horses. One stretch of the journey took him across Lake Baykal. During another spell he drifted down the River Amur amidst lovely country on the edge of China; he passed through extremes of heat and cold; he voyaged along river and lake; he ploughed through mud, flood, cold, dirt, and vermin before he finally reached the convict island of Sakhalin.

During three hectic months Chekhov explored the whole of Sakhalin; and in making a census of the entire population of an island twice the size of Greece he had set himself a most formidable task. His was an undertaking worthy of a whole staff of field

[12] *Ibid.*, pp. 33-4.

workers: visiting every household on the island and making an elaborate census under twelve headings of such details as name, age, occupation, creed, marriage, etc. of the island's fifteen thousand convicts. Methodically Chekhov completed his questionnaire, and this basic information was further supplemented with copious notes on the daily routine of the prisoners: their food, clothing, churches, schools, hospitals, together with a general description of the island.

It was the custom for male convicts, after completing their allotted prison sentence, to become settlers on the island for a further number of years: then after finishing their second "stretch" they were finally repatriated to the Siberian mainland.

Chekhov returned to Russia by way of Ceylon and India. The immediate fruits of his journey were a series of newspaper articles published in *Ruskayan Myksal,* by which (together with the intercession of his friends in St. Petersburg) he sought to interest the Empress in the lot of the children on Sakhalin of whom he "cherished no little hope." It is not clear what came of his efforts, but it is thought that certain changes were made in the convict regime following his exertions.

It was not until four years after his return that Chekhov published the great mass of material he had collected on his Sakhalin journey.

> "My "Sakhalin" is an academic work [he writes], and I shall receive for it the prize of the Metropolitan Academy. Medicine cannot now accuse me of treachery. I have paid full tribute to knowledge and to the thing that the old writers called pedantry. I am glad that this severe culprit will hang in my literary wardrobe. Let it hang there! "Saghalien" naturally does not belong in the magazines; it is not material for the magazines. A booklet on the other hand I think will be worth something.[13]

This "booklet" of over four hundred pages, which is still untranslated from the Russian, is in fact a most laborious work. It presents in a sober manner the full details of Chekhov's investigations at the penal settlement; and although it contains many bizarre details of convict life, the book is anything but sensational in tone. His survey also covers the whole social economy of the island: the handicrafts, the hunting and fishing, the diet, the punishment, the fate of runaways, and in perhaps the most grim chapter the plight of the female convicts who were greatly out-

[13] Chekhov, Anton. *Letters of Anton Chekhov.* Selected and edited by Louis S. Freidland. London, Geoffrey Bles, 1924, p. 311.

numbered by men. The women were not locked up but distributed amongst the male settlers for service and housekeeping. In one of his few descriptive passages Chekhov relates how the males, in their best clothes, assemble to inspect the newly landed criminals. They are turned into the barracks of the women and left alone with them. For the first quarter of an hour the indispensable dues are paid to confusion and embarrassment. The "bridegrooms" loaf round the plank beds, say nothing, and morosely eye the women who sit hanging their heads. Each man makes his choice quite gravely, paying attention to their plainness, to their advanced age, to their jailbird aspect; he scrutinizes, and he wants to guess by their faces, which of them is a good housewife? Then one of them, young or elderly, "seems to him the thing"; he sits down by her and starts a heart-to-heart talk. She asks, "Has he a samovar?" "How is his hut roofed, with planks or with thatch?" To this he answers that he has a samovar, also a horse, and a second-year calf; and his roof is planked. Only when the housekeeping examination is over, when both of them feel that the affair is settled, can she bring herself to put the question: "But you won't offend me?" The talk comes to an end. The woman is enrolled to Settler So-and-So, in Such-and-Such a settlement, and the "civil marriage" is completed. The settler makes his way home with his consort, and as a finale, hires a cart, often with his last coin, so that the mud may not splash their faces. At home, the woman's first act is to get the samovar going; and the neighbours, watching the smoke, say enviously that So-and-So has got a wife already.

But descriptive passages are few. For the most part Chekhov presents a sombre and academic work well laced with facts and figures. His revelations cast a most unfavourable light on the physical condition of the convicts, 10.6 per cent of whom were so weak as to be incapable of work, whilst the remainder were far from healthy. Medical records were virtually non-existent and the meagre reports that were kept give such fanciful causes of death as "irregular breast feeding," "unfitness for life," "spiritual illness of the heart," and "internal exhaustion and inflammation of the body."[14]

Infectious fevers raged unchecked. Scarlet fever and diphtheria took a heavy toll amongst the children, as did typhus and typhoid

[14] Chekhov, Anton. *Sakhalin Island.* Moscow, 1894, p. 322.

amongst the adults. Convicts were also very prone to pneumonia, due to a combination of malnutrition and heavy work in all weathers. Pulmonary tuberculosis was rampant—Chekhov found the highest incidence between the ages of twenty-five and thirty-five.

No special facilities existed for the care of mental patients, most of whom were allowed to carry on with their normal occupations. Chekhov records seeing numerous convicts suffering from paranoidal delusions at work with axes: only when they became quite uncontrollable were they admitted to a general hospital. It is therefore not surprising that violence was rampant, and deaths from unnatural causes frequent. Out of the total population of 15,000 convicts, 11,309 had reported sick in one year (1889) and had received treatment at one of the three district hospitals which Chekhov dismissed as "a collection of dirty huts with prison cells known as wards."[15]

The main hospital was a barrack-like building of 180 beds where the patients lived in squalor. Chekhov describes seeing patients with bandages which were so dirty that they appeared to have been walked on, and the only competent medical officer was himself a convict. When examining patients the doctor seated himself behind a grill (rather like a bank clerk) which prevented the patients coming too close to him. An orderly with a drawn revolver was posted near the door. Obviously such conditions were not conducive to a reasonable medical examination; for in addition to the belligerent atmosphere there were grave therapeutic deficiencies—no antiseptics, insufficient water, and hence no attempt at asepsis. Chekhov's survey included an inventory of hospital equipment which was extremely meagre and contained such forlorn items as three clysters and two thermometers (both broken).

Towards the end of his stay on Sakhalin Chekhov wandered into a convict graveyard, and his musings there stimulated his literary gifts to burst through the dull monotony of statistics.

> There is no need for anyone to remember all these people [he writes] lying under little crosses: murderers, runaways, whose fetters used to clatter. Maybe somewhere on the Russian steppe some old wagoner by the wood pile, or in the forest, will relate for sheer weariness, how in their village there was once a robber So-and-So. The hearer, looking into the darkness,

[15] *Ibid.*, p. 330.

will shiver, a night bird will cry out at the moment; and that is all their funeral service.[16]

Chekhov's book on Sakhalin was not well received: there was much raillery and only slight admiration. Surovin, his publisher, described the book as "serious, leadened, and dry." His critics stubbornly refused to take notice of the fact that "Sakhalin Island" was essentially an academic work quite different from his stories—indeed one of them penned the following lines of doggerel:

> A talented scribe by the name of A. Chekhov
> To Sakhalien Isle on a journey did set off
> For days without end midst its cliff he did blunder
> In search of the Muse—Inspiration—to dun her
> He sought high and low, but the Muse remained hidden
> Then swiftly he turned back the way he had ridden.
> Our tale's simple moral's as old as creation
> Stray not too far from your art's inspiration.[17]

It was not until after Chekhov's death that his research in sociology was fully recognized. Professor Mikhail Chlenov wrote in the *Moscow University Journal:* "In the future *Sakhalin Island* will serve as a model for works of this nature when a department of ethnographical medicine, which is needed so much, is opened up."[18]

During the winter of 1892 Chekhov bought an estate of 693 acres near the hamlet of Melihovo in the province of Moscow. From the first day he moved there, the sick began flocking to him from twenty miles around, and he was often called out to visit patients at a great distance from his home. In spite of the demands on his time he never let anyone go away without advice or medicines; and his expenditure for drugs was considerable. According to his sister, who helped him as a trained nurse, Chekhov "treated more than a thousand sick peasants a year at his home, gratis, besides which he supplied them all with medicines."[19] Thus in addition to his literary labours and the management of his estate Chekhov found himself saddled with the tribulations of a large country practice.

Shortly after his arrival there, Moscow province was threatened with an epidemic of cholera. Every day it came nearer. Chekhov was elected a member of the Serpuhovo Sanitary Council and was

[16] *Ibid.*, p. 210.
[17] Chukovsky, Kornei. *Chekhov the man.* Translated by Pauline Rose. London, Hutchinson, 1945, p. 42.
[18] *Ibid.*, p. 43.
[19] *Ibid.*, p. 22.

asked to take charge of a section. He gave his services free and immediately began raising money from local landowners and persuading them to take adequate measures to prevent the spread of infection. Due to his energy his section of twenty-five villages was equipped with emergency hospitals and drilled in preventive measures. Chekhov's account of the epidemic is contained in a letter to Surovin dated 16 August 1892.

> They are doing marvels which might force even Tolstoy to take a respectful attitude to medicine and the intervention of cultured people generally in life. It seems as though they had got a hold on the cholera. They have not only decreased the number of cases, but also the percentage of deaths. In immense Moscow the cholera does not exceed fifty cases a week, while on the Don it is a thousand a day—an impressive difference. We district doctors are getting ready; our plan of action is definite and there are grounds for supposing that in our parts we too shall decrease the percentage of mortality from cholera. We have no assistants, one has to be doctor and sanitary attendant at one and the same time. The peasants are rude, dirty in their habits, and mistrustful; but the thought that our labours are not thrown away makes all that scarcely noticeable. Of all the Serpuhovo doctors I am the most pitiable; I have a scurvy carriage and horses, I don't know the roads, I see nothing by evening light, I have no money, I am very quickly exhausted, and, worst of all, I can never forget that I ought to be writing, and I long to spit on the cholera and sit down and write to you.[20]

In another letter Chekhov gives an indication of his proposed method of treatment should the cholera reach his section.

> The treatment of cholera requires of the doctor deliberation before all things; that is, one has to devote to each patient from five to ten hours or even longer. As I mean to employ Kantani's treatment—that is, clysters of tannin and subcutaneous injections of a solution of common salt—my position will be worse than foolish; while I am busying myself over one patient, a dozen can fall ill and die. You see, I am the only man for twenty-five villages, apart from a feldsher who calls me "your honour," does not venture to smoke in my presence, and cannot take a step without me. If there are isolated cases I shall be capital; but if there is an epidemic of only five cases a day, then I shall do nothing but be irritable and exhausted and feel myself guilty.[21]

Fortunately, cholera never reached Chekhov's district; but his industry and organising ability attracted attention and led to his election to the local Zemstvo (Council). He keenly interested himself in all its affairs and supervised the construction of new roads, hospitals, and schools. On behalf of the government he busied himself with an exhaustive census of the local population.

[20] *Op. cit.* (note 3), p. 309.
[21] *Ibid.*, pp. 312-13.

Local government in Russia was still in its infancy in Chekhov's time. It only began in 1866 when European Russia was administered through a number of provincial and district assemblies called "Zemstvos," the members of which were entrusted with the administration of local prisons, public health, education, and such medical services as then existed. Gradually these local services improved; but although twenty to twenty-five per cent of their total revenue was devoted to the medical services, the standard of practice was far below that of most European countries. When discussing general conditions in the provinces in 1903, Seton-Watson (1952) writes:

> Medical services were still of poor quality and depended too much on semi-skilled orderlies in the absence of qualified doctors in many areas. From the turn of the century however standards greatly improved. The increased organisation of the medical profession itself contributed notably to this result.[22]

There was little inducement for doctors to join the Zemstvo service (particularly in the districts) as their salary was a mere pittance compared with the incomes derived by their colleagues from private practice in the cities and larger towns where up-to-date clinics existed for the care and investigation of their patients. For the most part the district Zemstvos were staffed with medical orderlies called feldshers whose training gave them a smattering of first aid and whose duties were largely concerned with matters of elementary sanitation. A great gulf, therefore, existed between the standard of medical practice in the cities and that of the country districts: between the treatment of those who could pay and the ones who could not. It is therefore not surprising that Chekhov, as a qualified medical man, should be overwhelmed with requests to visit patients and give advice; and it is greatly to his credit that, in spite of his frail health, he gave himself unsparingly without hope of material reward for the welfare of his fellow countrymen.

Though Melihovo was his permanent home, Chekhov frequently had occasion to visit Moscow and St. Petersburg: for these visits government regulations required a passport as Chekhov's permanent home was in the country. It was suggested that he should join the government service and thereby qualify for the document. Chekhov accordingly petitioned the Department of

22 Seton-Watson, Hugh. *The decline of Imperial Russia.* London, Methuen, 1952, p. 163.

Medicine and was duly appointed junior medical clerk: he resigned as soon as he had been granted his passport. This was Chekhov's only official medical appointment, though his interest in the profession never waned as is evident in the following letter:

> I believe in Koch [he writes] and in spermine and praise God for it. All these—that is kochines, spermines and so on—seem to the public a kind of miracle that leaped forth from some brain after the fashion of Pallas Athenae; but people who have a closer acquaintance with the facts know that they are only the natural sequel of what has been done during the last twenty years. Surgery alone has done so much that one is fairly dumbfounded at it.[23]

Chekhov was obviously referring to the revolutionary changes which followed in the wake of the Listerian system of antiseptic surgery. Operations became safer and their scope could be extended. Somewhat earlier than Lister, Semmelweis in Vienna had shown that the high death rate from puerperal fever was almost entirely due to lack of sterility. It had been the custom of medical students to examine women and assist at births after previously carrying out post-mortem examinations and other septic tasks. Thus infection spread like wildfire.

Other surgical advances were the natural sequence of antiseptic surgery. Spenser-Wells, a pioneer in abdominal surgery, had lately introduced his artery forceps which are perhaps still the commonest surgical instrument. William Röntgen first used X-rays about 1895; plaster-of-paris bandages for immobilising fractures had come into use in the 1870's; and Johanes Mezgar was then a pioneer in physical medicine which is still a Cinderella specialty.

There had also been many great strides in bacteriology and its allied science of immunology. Only eight years previous to Chekhov's letter, Koch had discovered the causative organism of tuberculosis. His discovery led to attempts to modify the virulence of the organism and thereby provide the subject with some degree of immunity. Koch found that heat alone modified the virulence of the anthrax bacillus which, when subsequently injected into sheep, produced only a mild form of the disease together with immunity to further attacks. These discoveries opened up a new horizon in therapeutics. In 1890 von Behring and Kitasati showed that passive immunity to tetanus could be induced by injecting serum from an infected animal: later von Behring and Ehrlich produced an artificially acquired immunity to diphtheria.

[23] *Op. cit.* (note 3), p. 221.

"Will kochine cure syphilis?" asked Suvorin. "It is possible," answers Chekhov cautiously; "but as for cancer, you must allow me to have my doubts. Cancer is not a microbe; it's a tissue growing in the wrong place, and like a noxious weed smothering all neighbouring tissues."[24]

Chekhov's own health was giving cause for concern and in April 1897 he suffered a violent haemoptysis. In hospital it was found that his left upper lobe was infiltrated with tuberculosis. As soon as he was feeling well enough, he resumed his literary activities and produced one of his best known short stories, "Ward No. 6." His indifferent attitude to his own illness is evident in a letter to Suvorin:

> I understand their diagnosis [he writes] but don't understand their prescription [they ordered him to change his manner of life], because it is almost impossible. After the evening Tolstoy came here (we talked for a long time) at 4 o'clock in the morning I had a violent haemorrhage again.[25]

Eventually Chekhov was discharged from hospital with strict instructions to discontinue the practice of medicine. He returned to his estate and continued writing between frequent bouts of illness. He failed to gain weight and at one time he had hopes of going to Berlin for treatment with Koch's new anti-tuberculosis serum, but the trial results were unfavourable.

After the death of his father, Chekhov sold Melihovo and spent the remainder of his years in vain pursuit of health. First he visited Yalta, later he went to the French Riviera, and finally, on the advice of a Moscow specialist, he took the koumiss "cure" at Ufa. During these last four and a half years of his life Chekhov was a sick and restless man, driven from place to place by his insatiable energy. His main interests were now centred around the newly opened Moscow Arts Theatre where the greater part of his dramatic works were first produced. In 1901 he had married Olga Knipper, one of Moscow's leading actresses who looked after him well during the few remaining years of his semi-invalid life.

Whilst at Yalta Chekhov was asked by G. I. Rossohimo for a brief autobiography and his reply reveals his attitude towards medicine and literature.

> I have no doubt that the study of medicine has had an important influence on my literary work; it has considerably enlarged the sphere of my observation, has enriched me with a knowledge the true value of which

[24] *Ibid.*, p. 221.
[25] *Ibid.*, p. 347-8.

for me as a writer can only be understood by one who is himself a doctor. It has also had a guiding influence, and it is probably due to my close association with medicine that I have succeeded in avoiding my mistakes.

Familiarity with the natural sciences, and with the scientific method has always kept me on my guard, and I have always tried where it was possible to be consistent with the facts of science, and where it was impossible I have preferred not to write at all. I may observe in passing that the conditions of artistic creation do not always admit of complete harmony with the facts of science. It is impossible to represent upon the stage a death from poisoning exactly as it takes place in reality. But the harmony of the facts of science must be felt even under those conditions—i.e. it must be clear to the reader or spectator that this is only due to the conditions of art, and that he has to do with a writer who understands.

I do not belong to the class of literary men who take up a sceptical attitude towards science; and to the class of those who rush into anything with only their own imagination to go upon.[26]

In addition to his labours in general practice, his researches into social medicine and his unpaid work in preventive medicine, Chekhov also took an interest in medical journalism. He played a leading part in launching the *Russian Journal of Surgery*. Earlier he had used his influence to pilot the newly fledged journal past the censor and in 1897 he writes:

"The Journal of Surgery" has been sustained by the Censor. We are bringing it out. Be so good as to do us a service—have the enclosed advertisement printed in your front page and charge it to my account. The journal will be a very good one, and this advertisement can lead to nothing but unmistakable and solid benefit. It's a great benefit you know, to cut off people's legs.[27]

In 1904 the Russo-Japanese War broke out, and Chekhov in spite of his ill health was most anxious to go to the front as a medical officer. To A. V. Amphitectrov he wrote: "If I am well enough I shall go to the Far East in July or August, not as a correspondent but as a doctor. It seems to me that a doctor will see more than a correspondent can."[28]

Unfortunately his condition deteriorated and instead of going East he was destined instead to travel to Germany for more rigorous treatment. About this time Chekhov's best-known play "The Cherry Orchard" was produced at the Moscow Arts Theatre. The worry and excitement of producing the play caused a complete breakdown in health and soon afterwards he visited Altschulher, the famous Berlin physician, who prescribed heroin. From Berlin Chekhov travelled south to the Black Forest where his condition

[26] *Op. cit.* (note 4), p. 269.
[27] *Op. cit.* (note 3), p. 338.
[28] *Op. cit.* (note 4), p. 296.

became hopeless. He describes his treatment and daily routine in a somewhat cynical letter to his sister.

> The German doctors have turned all my life upside down. At seven o'clock in the morning I drink tea in bed, for some reason it must be in bed; at half past seven a German by way of a masseur comes and rubs me all over with water, and this seems not at all bad. Then I have to lie still a little, get up at eight o'clock, drink acorn cocoa and eat an immense quantity of butter. At ten o'clock oatmeal porridge, extremely nice to taste and to smell, not like our Russian. Fresh air and sunshine. Reading the newspapers. At one o'clock dinner at which I must not taste everything, but only the things Olga chooses for me, according to the German doctor's prescription. At 4 o'clock the cocoa again. At 7 o'clock supper. At bedtime a cup of strawberry tea—that is a sleeping draught. In all this there is a lot of quackery, but a lot of what is really good and useful—for instance the porridge.[29]

This was his last letter, for Chekhov had a sudden haemoptysis from which he died on 2 July 1904 and was buried at Novodyevitchy Monastery in Moscow. His forty-four years had yielded an immensely fertile literary crop: twenty-four volumes published by Marx in 1911, half a dozen plays and an unpublished work on "The History of Medicine in Russia," which reveals yet another facet of his medical career.

"His medicine gets in his way," said Tolstoy with a certain amount of truth. "If he were not a doctor he would be a still better writer."[30] The converse might well have been equally true.

ACKNOWLEDGMENT

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29 *Op. cit.* (note 3), p. 414.
30 Gorky, Maxim. *Reminiscences of Tolstoy, Chekhov and Andreev.* London, Hogarth Press, 1934, p. 75.

John Haslam, M. D.—1764-1844

Apothecary to Bethlem

DENIS LEIGH*

"One of the most successful practitioners, and able writers on this branch of medical practice (madness), is Dr. Haslam. His whole life has been devoted to the investigation of insanity; and having been connected for so many years with a large public and private establishment for the cure of this class of diseases, he is considered an oracle on the subject, and examined in all disputed cases of any consequence. This eminent 'Mad Doctor,' as he is peculiarly termed, is a very original thinker. His works are considered to be the most able productions which have appeared in this or any other country, on the subject of derangement of mind, and are largely quoted and read by all who are desirous of arriving at a correct knowledge of this important and interesting branch of Science. . . . Dr. Haslam is now in the decline of life. . . . In private life he is much esteemed. He possesses a kind benevolent disposition and is much beloved by a large circle of admiring friends and relations."[3] Apart from a brief reference to Haslam in Zilboorg's book,[39] where he is regarded as the discoverer of general paralysis of the insane, psychiatrists today might be disposed to regard the above encomiums as no more than an example of Victorian sententiousness. Nothing could be more incorrect. John Haslam has been somewhat unjustly neglected, perhaps due to the prejudiced and fragmentary account of his work by Tuke,[37] to the preoccupation of British psychiatry in the late nineteenth century with the evils of restraint, and to the self-conscious rectitude of Connolly, Tuke, Gardiner Hill, and other reformers. On the other hand, it is very doubtful if Haslam can be regarded as the first to describe general paralysis. It is clear that a re-appraisal of Haslam and his work is therefore justifiable.

Student Days

John Haslam was born in London in 1764, his father also a John Haslam. Of his early years little is known, but he himself says "after a period of apprenticeship I became a student at St.

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Bartholomew's Hospital, and afterwards House Surgeon. My medical knowledge was first derived from the lectures of Dr. G. Fordyce, and as a physician's pupil, from the hospital practice of Dr. David Pitcairn. Afterwards, I attended, for more than two years, the medical and chemical lectures at Edinburgh; and during that time, was elected a President of the Royal Medical, Natural History, and Chemical Societies in that University. Subsequently I studied at Upsala, in Sweden; and lastly, at Pembroke Hall, in the University of Cambridge."[16] In spite of this personal statement, I have been unable to confirm that he in fact attended Bart's or Upsala, but he was a prominent member of the Royal Medical Society of Edinburgh and in 1786 became a junior president. He had joined the group on 10 December 1785 and later delivered two dissertations to the Society. The first was given in the 1785-86 session, the subject being 'In what manner are parts of the human body reproduced when they have been destroyed? Can the extensive reproduction of the lower animals be rationally accounted for.' The second was delivered in the 1786-1787 session and had the more conventional title of 'Lues Venera.' Both dissertations, in Haslam's hand, are preserved in the library of the Society.

Haslam took an active part in a misunderstanding which occurred between the Managers of the Royal Infirmary and the students. The Managers had passed a somewhat hasty resolution regulating the hours of admission for students attending the Infirmary, and censuring the general body of the students for the misconduct of the few. The students, also acting hastily, formed a body entitled 'The Associated Students,' elected Thomas Beddoes as Chairman, and published a pamphlet in connection with the dispute. The committee of 'The Associated Students' which was appointed to submit a representation to the Managers of the Infirmary consisted of the Chairman, Thomas Beddoes, and nine students, eight of whom were members of the Society; of these latter James Mackintosh and John Haslam were the most active. From the style of his later writings, it seems highly probable that the narrative was written by Haslam. The twenty-four-page pamphlet, entitled "A narrative of some late injurious proceedings of the Managers of the Royal Infirmary against the students of medicine in the University of Edinburgh,"[2] is written in an admirably lucid style, and many of the phrases are characteristic of Haslam. Unfortunately, however, there is no direct evidence in the archives of the Royal Medical Society as to the identity of the author.

The intervention of the Medical Faculty ended the misunderstanding satisfactorily. The student organisation, however, continued for several years to maintain the rights of the students. Whilst at Edinburgh, Haslam would have come into contact with Dr. Andrew Duncan, founder of the Public Dispensary in West Richmond Street and of the Edinburgh Asylum for the Insane, who later became Professor of the Institutes of Medicine. Dr. Duncan's interest in the treatment of the insane was aroused when as a young practitioner he was called to attend the poet Fergusson in the local madhouse. For many years he had been concerned with the idea of a public lunatic asylum in Edinburgh, and in 1792 proposed construction of such an institution. Even then, so many difficulties arose that not until 1807 was a royal charter granted, under which a lunatic asylum was built at Morningside. A year later Duncan received the Freedom of Edinburgh for the services of this foundation and of his dispensary. He was a very convivial man, in his youth being known as the 'smiling boy,' and his reputation for good nature was retained throughout his life. He was president of the Royal Medical Society in 1764 and five times afterwards, his fondness for the Society continuing throughout his life. He was also its treasurer for many years, and in 1786, the year of Haslam's presidency, was voted a gold medal for his services. Such a man could not fail to have influenced the young Haslam, who was also of a convivial nature, interested in psychiatry, and a copious writer. Unfortunately, Haslam's career remains a mystery for the next eight years, until 1795, when he suddenly re-appears, having been elected Apothecary to Bethlem. Perhaps it was during this period that he studied at Upsala.

Apothecary to Bethlem

Haslam succeeded John Gozna, who had filled the post since 1772. Gozna has left no writings, but over the twenty-three years of his connection with Bethlem he collected some of the first statistics on insanity. At his death his brother presented the manuscripts to Dr. William Black, who published them in 1811 in his book *Dissertation on Insanity*. Gozna's colleague and friend, Bryan Crowther, surgeon to Bethlem, also mentions that "Mr. Gozna informed me that of the patients who took the smallpox infection, the majority of such were restored to their sense."[9] However, Crowther sadly confessed that he had been unable to confirm this impression statistically, much as he would have cherished the opportunity of transmitting his old friend's discovery to posterity.

Haslam was Apothecary until his dismissal by the Governors in 1816. During this period Bethlem was in a phase of transition. The palatial building erected in Moorfields in 1676 was by now no more than an elegant hulk. Floors gaped and walls cracked, and the expanding city engulfed the once open fields surrounding the hospital. In 1801 the Hospital Committee decided to move the hospital to another district, and negotiations were begun which eventually resulted in the opening of the third Bethlem at St. George's Fields in 1815. As we shall see, Haslam was to be concerned with the plans in several ways but was dismissed shortly after the opening of the new hospital. Although the hospital in Moorfields was showing signs of wear and tear, the remarkable Monro family, which supplied the physician to Bethlem for one hundred and twenty-five years, continued as steadfast as ever. During Haslam's service his physician was Dr. Thomas Monro (1759-1833), connoisseur and patron of many British water colorists. The surgeon was Bryan Crowther, whose publications included *Practical Observations on the Disease of the Joints*[8] and *Practical Remarks on Insanity*.[9] The hospital at this time consisted of about 120 beds. A vivid picture of the working of the hospital is given in the minutes of evidence before the Committee (appointed by the House of Commons) to consider Provisions being made for the Better Regulation of Madhouses in England.[36] Haslam told this committee in 1815 that he possessed extracts from the records as far back as 1577. He attended the hospital "very regularly every day, frequently goes round, passes along the galleries, and if there is a patient he has a particular desire to see, he sees that person." Haslam had formerly lived in the hospital but owing to part of the building being taken down had latterly lived at Islington. He came to the hospital at eleven o'clock, "stays half an hour, or sometimes longer than that, and had never been absent from the hospital above three days, and then had leave of absence from the Treasurer." If any emergencies arose, Dr. Haslam was the only person who might be called, but as the patients were locked in their cells every night, there were no night calls. For these services he received £335 a year, whilst Dr. Monro, the physician, whose orders he carried out, received £100 a year.

Haslam's evidence was not calculated to placate the reformers, for his answers are somewhat arrogant and, in many respects, casual, and afford us some key to his character. He had a good opinion of himself and stated that "[I am] so much regulated by

my own experience, that I have not been disposed to listen to those who had less experience than myself." The thorny question of restraint was treated somewhat cavalierly, and Haslam stoutly maintained that the restraints used at Bethlem were for the patients' own good. In fact, in one of the last papers he wrote, in 1843, he maintained that there was a definite place for restraint in the treatment of psychiatric patients. It is small wonder that Tuke[37] treats him so badly in his historical survey. The Select Committee sat in 1815 and 1816 and was to spell temporary ruin to Haslam. Public interest in insanity had been aroused by the recurrent madness of George III. This, together with the reforming zeal of the late eighteenth century, made the care of lunatics a public issue. In 1814 Edward Wakefield, one of the "reformers" who was in the habit of visiting asylums throughout England, happened to visit Bethlem. Here he saw James Norris chained in a most extraordinary manner, and on inquiry he found that this dangerous man had lived so restricted for nine years. Wakefield's indignation was aroused, he called several M.P.'s to visit Norris, and the Select Committee resulted. However, although Norris's plight provoked considerable hostility toward Bethlem and its staff, it was another patient, John Tilly Matthews, who played a decisive part in Haslam's career.

In 1810 Haslam had published a most remarkable book, with an equally remarkable title, *Illustrations of Madness: Exhibiting a Singular Case of Insanity, And a No Less Remarkable Difference in Medical Opinion: Developing the Nature of Assailment, And the Manner of Working Events; with a Description of the Tortures Experienced by Bomb-Bursting, Lobster-Cracking, and Lengthening the Brain. Embellished with a Curious Plate.*[14] This was in effect the history of John Tilly Matthews, a patient in Bethlem suffering from what would now be called paranoid schizophrenia and a most remarkable character. This book is the first adequate record of a particular type of mental illness to be published in English and is a masterpiece of clinical description. Previous case reports had indeed been published, notably by Robinson,[35] Perfect,[33] and Pargeter,[32] but were fragmentary and tedious to read. Haslam's book could well have been published almost a century later, when Kraepelin was laying the foundations of an adequate nosology.

Matthews himself was to cross Haslam's path several times. He had been admitted to Bethlem on 28 January 1797, but his rela-

tives did not agree that he was mad, and almost at once instituted legal proceedings. These were unsuccessful, Matthews was committed to Bethlem and in January 1798 was transferred to the 'incurable' section of the hospital. In this situation he continued for many years; sometimes an automaton moved by the agency of persons known as Bill the King, Jack the Schoolmaster, or the Glove Lady, at other times the Emperor of the Whole World. Matthews was a man of some education who had previously been a tea-broker in Leadenhall Street, and he was able to deceive his family and visitors as to his true state of mind. In 1809 a further legal fracas occurred—two doctors employed by the relatives found Matthews sane, and his release was demanded. Haslam's comments are worth quoting. "It had been the unvarying opinion of the medical officers of Bethlem Hospital, that Mr. Matthews had been insane from the period of his admission to the present time. Such opinion was not the result of casual investigation; but a conclusion deduced from daily observation during thirteen years. But aware of the fallibility of human judgment, and suspecting that copious experience which sheds the blessings of light upon others, might have kept them in the dark: perhaps startled at the powerful talents, extensive learning, and subtile penetration which had recorded in the face of day the sanity of a man whom they considered as an incurable lunatic: and flinching at an oath contradictory to such high testimony, the medical officers prudently referred the determination of the case to the constituted and best authorities in the kingdom."

For this purpose they assembled a consultation of eminent medical practitioners, who, after a deliberate examination of the patient's mind, decided that Matthews was insane. His relatives, however, returned to the attack in 1815, and Haslam was closely questioned about Matthews by the Select Committee. By this time Matthews had been transferred, "for a change of air," to the care of a Mr. Fox, who kept a private house, London House in Hackney. Half the fees were paid by Bethlem and half by his relatives. He soon made himself at home, and when the philanthropic visitors carried out their inspection, he was in point of fact advising manager of the conduct of the patients and showed them over the place, telling them the history of every patient. He died in 1814.

Although he would have been delighted at Haslam's dismissal from Bethlem in 1816, he enjoyed several favours from Haslam. He was taught engraving by one of Haslam's friends, and books

and material were provided for him by Haslam. Matthews' skill with the pen was remarkable, and there is in my possession a manuscript which he executed for Haslam (Fig. 1). A handwritten note states that "He could imitate black letter type most beautifully, and I have seen in the possession of the late Sir Anthony Carlisle, a black letter book, a leaf of which having been lost, another was copied from a complete example by Matthews so well as to be indistinguishable from the original type." In addition he was a considerable draughtsman and submitted plans for the New Bethlem hospital which was to be built. The Governors presented £30 to him as an acknowledgment of his skill and trouble, surely a remarkable tribute to their generosity in dealing with such a formidable troublemaker as John Tilly Matthews. Haslam was alleged to have conceived a violent animosity toward him. When, for instance, the patient argued that he was being illegally detained, Haslam is said to have replied "You dispute our authority (with an oath). Sir, we will soon let you know what our authority is." The next day Matthews is supposed to have been put in irons. Again, when discussing Matthews' case in a coffee house, Dr. Haslam was supposed to have stated that the man had no right to be in Bethlem. One of Matthews' relatives brought the matter up before the Committee of the hospital, saying "Mr. Haslam, on what grounds can you recommend to the Committee still to persevere in the keeping Mr. Matthews, after your assertion in the City of London tavern, at such a time, that he was as well as you." Mr. Haslam made no reply to this.

Disgrace

How Matthews' relatives must have rejoiced when Haslam was summarily dismissed from Bethlem in 1816. At the close of the enquiry in 1815, Haslam's health had been drunk by the Governors, but soon, particularly after publication of the report of the Select Committee, there was a change of view. Bethlem had obviously not come off very creditably, and the House of Commons ominously expressed its desire that the Governors should carefully consider the report before the annual re-election of the Medical Officers. Thomas Monro, the physician, and John Haslam were asked to furnish an explanation of their evidence before the Select Committee. *The Observations of the Physician and Apothecary* was published in 1816,[16] and both men set out a dignified reply to the allegations against them. From reading Haslam's apologia it is clear that he had been unwise in some of his replies to the Com-

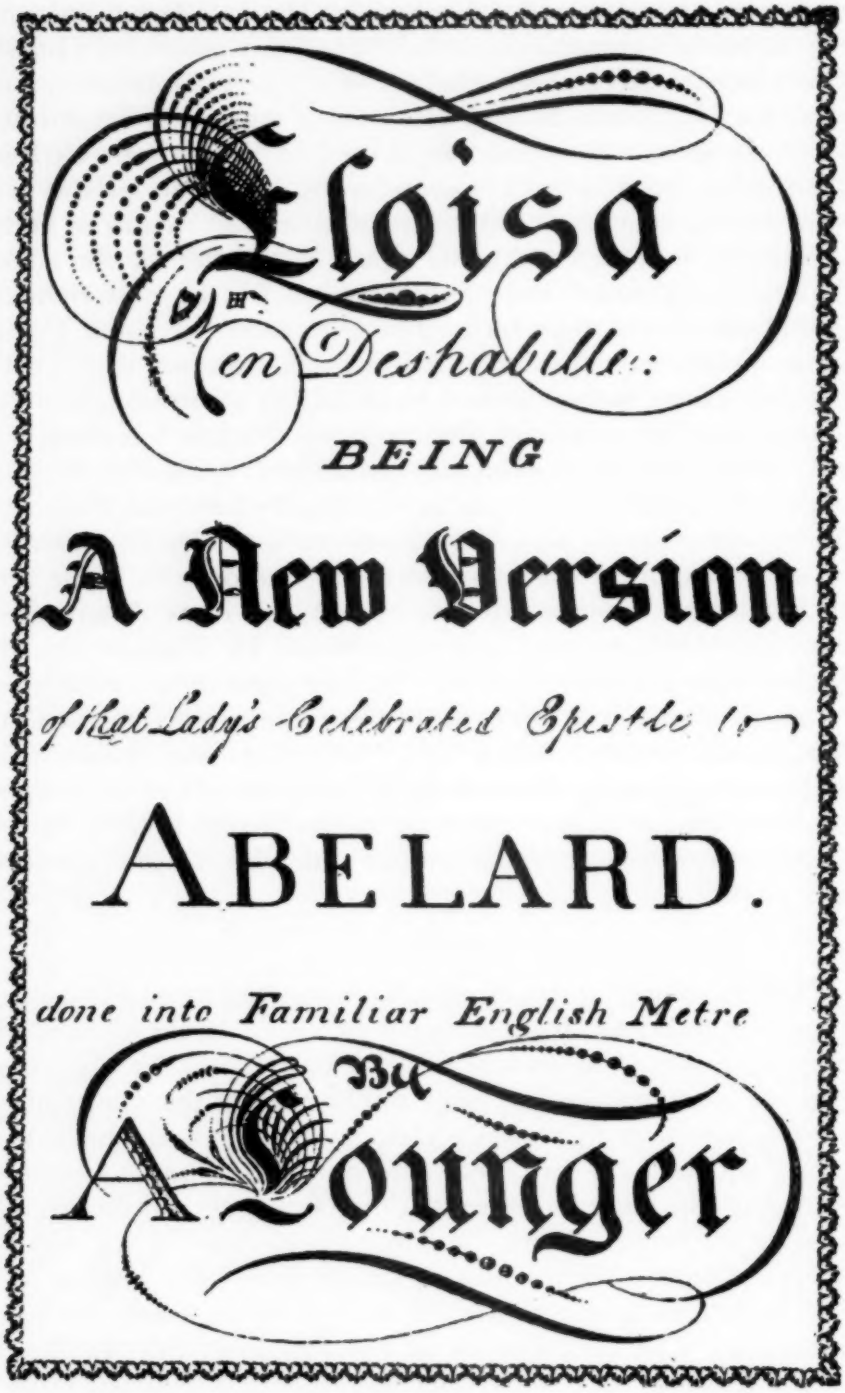


Fig. 1. Frontispiece of manuscript by James Tilley Matthews.

mittee, and he was to suffer dearly for his arrogance. Neither he nor Monro was re-elected. At the age of fifty-two, 'sacrificed to public clamour and party spirit,' Haslam was cast adrift with no pension but, luckily, still with good friends. This bitter blow saddened Haslam's life as can be seen from the dedication of one of his last publications to his daughter.[23] "My dearest daughter, This Essay on Thought is appropriately dedicated to a lady of whom I am constantly thinking!—whose dutiful conduct, and filial affection, have rendered a protracted life the subject of consolation, under all its contingent miseries."

After his dismissal he had forthwith applied for an M.D. from Marischal College, Aberdeen. On 17 September 1816 he received his degree, a special note appearing after his name in the list of graduates which read, "The usual fortnight's delay dispensed with, Mr. Haslam having already acquired great celebrity by his medical productions." This refers to the regulation in force at the time that no M.D. degree should be granted till the Senatus had taken into consideration the character and qualifications of the candidate at two different meetings held at the interval of a fortnight. Both his sponsors were remarkable men and together with other of Haslam's friends will be referred to later.

Haslam set forth to establish himself as a physician in London. To comply with the regulations of the College of Physicians, the 'Gentlemen of Warwick Lane' whom he scathingly refers to in the introduction to *Illustrations of Madness,* he entered himself at Pembroke College, Cambridge, and he had some terms there, but took no degree. He was finally admitted a licentiate of the College of Physicians on 12 April 1824, at the age of 60. The reason for this late entry into the fold is obscure, but even in 1810 in his *Illustrations of Madness* he had written, "It is true, a Doctor may be blind, deaf and dumb, stupid or mad, but still his diploma shields him from the imputation of ignorance. It has also not unfrequently occurred, that a man who has been dubbed a Doctor of Medicine at Leyden, Aberdeen, or St. Andrews, and whose Diploma sets forth his profound learning, accomplishments, and competence to practise on the lives of His Majesty's good and faithful subjects, has been found incapable of satisfying the gentlemen in Warwick Lane that he possessed the common rudiments of his profession, and has been by them accordingly rejected: so that learning in many instances appears to be local." Perhaps this indicates that

Haslam had already had some trouble with the College, although I can find no evidence for this.

The catastrophe of 1816 must have had severe financial implications, for Haslam had to sell his library. Leigh & Sotheby's held a four-day sale of his books on 5 July 1816. The catalogue is of great interest, as it gives a vivid picture of the sources used by Haslam. There were 1,167 items, the last two being a "handsome mahogany Bookcase 9 feet 3 inches high, eleven feet wide, 2 feet deep, in two heights with drawers and wardrobe at bottom, enclosed with mahogany doors, the upper part with fast doors," and "A mahogany Ladder for ditto." The library consisted of "A Curious Collection of Books printed in black letter; Old English History; Tracts etc. relative to London, Facetiae; Old English Poetry and Plays; German, Dutch, Saxon and Northern Literature; Classics; Treatises on Languages; Voyages and Travels, etc. etc." There was one Caxton —Higden's (Ranulph) *Polycronicon,* imprinted by William Caxton, 1482. The books show remarkable taste and learning on the part of their owner, and even today the impact on Haslam of his dismissal can be felt on reading through the list of his library.

The medical books consisted of 79 items, including works in English, German, Latin, and French. The psychiatric works include Pinel, Whyte on Nervous Disorders, Tuke's *Description of the Retreat,* Cullen's *First Lines,* Cox on Insanity, Ferriar's *Medical Histories and Reflections,* Auenbrugger on *Mania Vicorium,* Tryon's Medical Works, Perfect's *Annals of Insanity,* Crichton's *Inquiry into the Nature and Origin of Mental Derangement,* Hill's *Essay on Insanity,* Arnold's *Observations on Insanity,* Pargeter's *Observations on Maniacal Disorders,* and Harper's *Treatise on Insanity.* These represent practically the total of the worthwhile English psychiatric works published during the eighteenth century, apart from those of Dr. William Battie. It is not surprising that these are absent, for Battie had attacked Bethlem, and particularly the Monros, in his *Treatise on Madness* published in 1758. This attack resulted in John Monro's only publication (apart from his Harveian Oration), *Remarks on Dr. Battie's Treatise on Madness,* also published in 1758 and also absent from the list of Haslam's books. The remaining medical books include works on anatomy, chemistry, neurology, and general medicine. There are several reminders of Haslam's professional life. *The Memoirs of the Life of Thomas Beddoes* by J. E. Stocks, 1811, and a collection of tracts by Beddoes and Watt recall his days at Edinburgh and the dispute

between the governors of the infirmary and the students. Four volumes by the Buchans point to his friendship with Alexander Peter Buchan, the son of the better known Dr. William Buchan, whose "Domestic Medicine" went into more than a score of editions. A. P. Buchan was one of Haslam's sponsors for the M.D. he received from Marischal College in 1816. He had probably met Haslam whilst studying under the Hunters and Dr. George Fordyce, or at Edinburgh. The second sponsor, a far more distinguished man, was William Charles Wells, author of the well-known *An Essay on Dew,* but none of his works appears in Haslam's library.

Writings

Haslam's misfortune proved to be a spur to his pen; four books appeared within the four years 1816-1819. His first book had appeared in 1798 and was entitled *Observations on Insanity, with Practical Remarks on the Disease, and an Account of the Morbid Appearances on Dissection.*[13] It was an immediate success, a second edition appearing in 1809 with a slight change of title to *Observations on Madness and Melancholy.*[14] A German translation was published in 1800. Haslam's observations were widely quoted, particularly in works on forensic medicine,[4] and his name was well known in America and Europe. The reason is not far to seek, for the English psychiatric writings of the eighteenth century were either tedious and second-hand (Crichton 1798), anecdotal (Perfect 1780, 1787, 1791), or based on the outmoded and complicated nosology of Cullen. Haslam had a remarkably easy style and a facility for clear thought and writing. His particular interest in etymology, which is shown by the large number of books in his library on this subject, led him to consider his language somewhat more carefully than the average medical writer of this period. In this, his first book, he begins with definitions, then passes on to consider the division of mental disorders into mania and melancholy. He states categorically that he "would strongly oppose their being considered as separate diseases." In Bethlem he had observed cases where an alternation between mania and melancholy frequently occurred, and he made the point, hitherto unrecorded, that rapid or slow succession of ideas was the distinguishing feature of these states. He then passes on to consider the symptoms of the disease, astutely remarking that many personality features had often been regarded as symptoms, whereas in fact he aimed to distinguish certain common factors in the disorder which appeared whatever the personality. Then follows a simple and concise ac-

count of the symptoms found in mania and depression, with a digression on the lucid interval which was of such importance legally. Haslam always maintained that the lucid interval was a legal artifice, and he was to consider this further at a later date. Also of note is a very excellent description of the memory defects found in psychiatric patients and an account of schizophrenia. This last is worth quoting in full:

> Connected with loss of memory, there is a form of insanity which occurs in young persons; and, as far as these cases have been the subject of my observation, they have been more frequently noticed in females. Those whom I have seen, have been distinguished by prompt capacity and lively disposition: and in general have become the favourite of parents and tutors, by their facility in acquiring knowledge, and by a prematurity of attainment. This disorder commences about, or shortly after, the period of menstruation, and in many instances has been unconnected with hereditary taint; as far as could be ascertained by minute enquiry. The attack is almost imperceptible; some months usually elapse, before it becomes the subject of particular notice; and fond relatives are frequently deceived by the hope that it is only an abatement of excessive vivacity, conducing to a prudent reserve, and steadiness of character. A degree of apparent thoughtfulness and inactivity precede, together with a diminution of the ordinary curiosity, concerning that which is passing before them; and they therefore neglect those objects and pursuits which formerly proved sources of delight and instruction. The sensibility appears to be considerably blunted; they do not bear the same affection towards their parents and relations: they become unfeeling to kindness, and careless to reproof. To their companions they shew a cold civility, but take no interest whatever in their concerns. If they read a book, they are unable to give any account of its contents: sometimes with steadfast eyes, they will dwell for an hour on one page, and then turn over a number in a few minutes. It is very difficult to persuade them to write, which most readily develops their state of mind: much time is consumed and little produced. The subject is repeatedly begun, but they seldom advance beyond a sentence or two: the orthography becomes puzzling, and by endeavouring to adjust the spelling, the subject vanishes. As their apathy increases they are negligent in their dress, and inattentive to personal cleanliness. Frequently they seem to experience transient impulses of passion, but these have no source in sentiment, the tears which trickle down at one time are as unmeaning as the loud laugh which succeeds them; and it often happens that a momentary gust of anger, with its attendant invectives, ceases before the threat can be concluded. As the disorder increases, the urine and faeces are passd without restraint, and from the indolence which accompanies it, they generally become corpulent. Thus in the interval between puberty and manhood, I have painfully witnessed this hopeless and degrading change, which in a short time has transformed the most promising and vigorous intellect into a slavering and bloated ideot.

Haslam next describes the appearances of the brain in thirty-seven autopsies performed at Bethlem. It is on this account that Haslam has been judged the discoverer of general paralysis of the insane.[34] Much as the writer would wish this to be true, a close study

of this section and of all his writings shows that it is certainly not correct. Although the cases are only briefly reported, such is Haslam's clarity that a diagnosis can be made in terms of our own period. Alcoholics, melancholics, puerperal psychosis, and schizophrenics march through the pages. Case XV, however, is the only example of what might be considered as general paralysis, and in view of its importance it is worth recording.

J. A. a man, forty-two years of age, was first admitted into the house on June 27, 1795. His disease came on suddenly whilst he was working in a garden, on a very hot day, without any covering to his head. He had some years before travelled with a gentleman over a great part of Europe: his ideas ran particularly on what he had seen abroad; sometimes he conceived himself the king of Denmark, at other times the king of France. Although naturally dull and wanting common education, he professed himself a master of all the dead and living languages; but his most intimate acquaintance was with the old French: and he was persuaded he had some faint recollection of coming over to this country with William the Conqueror. His temper was very irritable, and he was disposed to quarrel with every body about him. After he had continued ten months in the hospital, he became tranquil, relinquished his absurdities, and was discharged well in June 1796. He went into the country with his wife to settle some domestic affairs, and in about six weeks afterwards relapsed. He was re-admitted into the hospital August 13th.

He now evidently had paralytic affection; his speech was inarticulate, and his mouth drawn aside. He shortly became stupid, his legs swelled, and afterwards ulcerated: at length his appetite failed him; he became emaciated, and died December 27th, of the same year. The head was opened twenty hours after death. There was a greater quantity of water between the different membranes of the brain than has ever occurred to me. The tunica arachnoidea was generally opake and very much thickened: the pia matter was loaded with blood, and the veins of that membrane were particularly enlarged. On the forepart of the right hemisphere of the brain, when stripped of its membranes, there was a blotch, of a brown colour, several shades darker than the rest of the cortical substance: the ventricles were much enlarged, and contained, by estimation, at least six ounces of water. The veins in these cavaties were particularly turgid. The consistence of the brain was firmer than usual.

Haslam certainly made no differentiation between this case and the miscellaneous collection of patients in his group, and although he is clearly observing a cortical atrophy, it is impossible to hold that he has given a recognisable description of the macroscopic anatomy of general paresis. In any case, Haslam himself did not separate particular clinico-pathological syndromes, and his claim to fame on this account must be regarded as disproved.

Before he passes on to consider the causes of insanity he describes three psychotic children, one of whom is quite certainly a childhood schizophrenia, and it may be that Haslam has a claim

to priority here, for the description of insanity in children heretofore had been notably neglected. The conventional division into physical and moral causes of insanity are considered, Haslam paying particular attention to heredity, but conceding that practically nothing is known of the cause of the disorder.

It has previously been mentioned that although Gozna collected some statistics during his period as Apothecary, these were not published until 1811, several years after his death. In fact, Haslam's figures are only the second such publication by a psychiatrist since Bethlem had been founded over five hundred years previously. The first set of figures was furnished by Edward Tyson to John Strype who was at that time collecting material for a new edition of Stow's Survey of London. Strype writes that "the late learned physician, Dr. Tyson, informed me that for the years 1684-1703 (during which time he had been ordinary physician there) there had been in this hospital 1,294 patients, of which number had been cured and discharged 890, which is above two patients in three; that after some years casting up, the number of men and women patients he found them pretty equal and very little difference." Haslam made the first satisfactory survey of the records available, and his findings were being quoted thirty years later. During 1748 to 1794, a period of 46 years, 4,832 women and 4,042 men had been admitted to Bethlem. Haslam analyses the discharge rate for the two sexes, the prognosis with regard to age and duration of the disorder. He shows that mania is more apt to remit than melancholy, and that when frequent swings of mood occur, the prognosis is correspondingly poor. Epileptic deterioration, 'religious madness,' and the prognosis of 'paralytic disorders' are all discussed. In passing he cannot refrain from a dig at the Reverend Francis Willis, who treated George III during one of his psychotic episodes, and from an outburst against methodism, to which he was obliged for "the supply of these numerous cases which has constituted my experience of this wretched calamity." One of Haslam's characteristics is his occasional lapse into a somewhat coarse and biting comment on the subject at large—a characteristic which is seen in his evidence before the Elect Committee and which no doubt shocked poor Tuke. He lovingly quotes a thoroughly destructive criticism of British psychiatry by Pinel, agrees with it wholeheartedly, and then ripostes with a sentence which demolished the Frenchman's claims of superiority.

The section on the management of patients is excellently done. Haslam considered that "he who pretends to regulate the conduct of such patients, should first have learned the management of himself. It should be the great object of the superintendent to gain the confidence of the patient, and to awaken in him respect and obedience; but it will readily be seen, that such confidence, obedience and respect can only be procured by superiority of talents, discipline of temper, and dignity of manner"—all fundamentals of psychiatric practice. Haslam goes on to say that "by gentleness of manner and kindness of treatment, I have seldom failed to obtain the confidence and conciliate the esteem of insane persons." So much for the evil man portrayed by Tuke—this man who for fourteen years had been "daily in the habit of visiting a very considerable number of madmen, and of mixing indiscriminately among them, without ever having received a blow or personal insult!"

Pinel's strictures on the methods used by British psychiatrists receive a worthy answer in the plainest account of 'moral management' that had yet been written, distinguished by Haslam's sincere, lucid, and concise style.

The last chapter is concerned with the different remedies used in cases of insanity, ranging from bleeding to cold bathing. He describes an instrument for forced feeding which, since its invention by Haslam, had never deprived a patient of a single tooth. Dr. Cox, who in his recently published *Practical Observations on Insanity*[6] had warmly recommended emetics as a general cure-all for psychiatric patients, comes in for withering fire which Haslam interspersed with an encomium on Dr. Sutherland, Haslam's friend for many years and the highly respected physician to St. Luke's.

There is little doubt that this book was the most outstanding psychiatric work of the eighteenth century in England, if not in Europe. It was not surpassed in English until the publication of Burrow's 'Commentaries' in 1828. The works of previous English psychiatrists, most of whom were represented in Haslam's library, were based on Celsus, or Paulus Aeginatus, or on Cullen. Haslam's book is alone in its clarity and the excellence of clinical description, based on a long and intimate acquaintance with mental disorder.

His next publication was *Illustrations on Madness,* in 1810, to which reference has already been made. In 1817 two more volumes were published. The first was entitled *Considerations on the Moral Management of Insane Persons.*[17] The outcry of the non-restraint

school and the parliamentary enquiries had made 'moral management' an issue of the day, and no subject could have been more topical. Haslam wastes no time in stating his view that some form of restraint is necessary during the active phase of both the manic and depressive illness. 'It is in the passive state of both forms of this disease where moral discipline can be most effectually administered.' He then passes on to consider confinement, coercion, keepers, 'the distribution of insane persons into classes' diminished sensibility of the insane, involuntary passage of faeces and urine, forcing of food and medicine, and the occupation and amusement of the insane. In other words his book is concerned with the practical management of mental patients. He points out that some form of restraint is necessary to prevent certain types of patients from injuring themselves or others. Restraint may actually contribute to the cure of insanity at times as an example of self-control which forms so large a part of mental action. His remarks on the keepers, or as we would call them today, the mental nurses, strike a modern note, for he laments the poor status and working conditions of these much maligned workers. The dangerous and often thankless tasks they undertake as often as not rendered them liable to abuse rather than gratitude. He suggests that a pension scheme should be started, and that a very careful supervision, indeed education, should be undertaken by the physician under whom they work. Details of the general medical care of lunatics include careful attention to bowels and bladder, adequate feeding, and the provision of work and relaxation. The history of the theme of moral management has yet to be written, but there is no doubt that Haslam's book is the first volume in English devoted solely to this theme. Again he states his opinion on the usefulness of restraint in some patients, and I doubt if psychiatrists today would disagree with him, even though the methods may be somewhat different. Haslam's attitude is essentially pragmatic and was to continue so throughout his long life.

His next book was second only in importance to his first publication. *Medical Jurisprudence as it Relates to Insanity* is dated 1817[18] and has been the subject of a previous communication.[20] It is the first book on forensic psychiatry to be published in England by a psychiatrist and is full of original observations and apposite comment. Haslam published a pamphlet in 1823 in the form of "A letter to the Lord Chancellor on the Nature and Interpretation of Unsoundness of Mind,"[21] in which he re-iterated several of

his views. The occasion for this pamphlet was the Commission held to inquire into Lord Portsmouth's sanity in 1822 and a previous Commission in 1814. Some eminent physicians had testified that his lordship was sane, others that he was insane. The Lord Chancellor had delivered a judgment which clearly made Haslam indignant, largely because it conflicted with the opinions he had expressed in his book 'On Sound Mind.' This, published in 1819, seems to have been somewhat of a favourite with him.[20] It was to be his last important work and is devoted to normal psychology, knowledge of which is indispensable to the psychiatrist. Haslam writes in his preface "that the mind of every rational person may be considered as an elaboratory, wherein he may conduct psychological experiments: he is enabled to analyse his own acquirement, and if he be sufficiently attentive, he may note its formation and progress in his children: and thus trace the accumulation of knowledge, from the dawn of infancy to the meridian of manhood." Surely this was the method Freud was to use so successfully eighty or so years later.

Starting from a simple consideration of perception and its relation to consciousness, which he regards as "the knowledge we possess of our own personal identity," Haslam leads on to memory, for perception and consciousness, without the adjunct of memory, are by themselves inefficient and useless. Memory has two very curious phenomena, first, that many of the transactions of childhood appear to be wholly obliterated, and second, they may be "accidentally revived by our being placed in the situation which originally gave them birth." These preliminary pages are then followed by a longer passage on speech, language, and the hand. Haslam points out how greatly man has advanced by the possession of his hand, with its powerful thumb, and by the alliance between speech and the hand. He again uses his concept of the body image to point out how many standards of measurement have been derived from the human body and how geographical terms also have a root in the rude anatomy of the human body. In the section on language Haslam shows his knowledge of what he calls "the Northern Group of Languages," and as the sale of his library showed, etymology ranked high amongst his interests. In passing he soundly berates Dr. Johnson for several mistaken or false derivations in the famous dictionary, and goes on to point out that "all the terms which designate the faculties and operations of our

minds, are of physical origin, as well as those which characterise the thinking or immaterial principle itself."

Will or volition is the next subject, and Haslam points out that there are two sorts of function—the voluntary and involuntary. He proceeds to discuss the development of will "from the dawn to the meridian"; the baby, "that helpless mass of animation," at first appears to have no voluntary control, but as perception develops, so volition grows. When language develops, "our perceptions become doubly aimed and impress the memory with additional effect: the employment of the term as the representative of the object, recalls the original perception, and thus invests the mental phantasm with a local habitation and a name." Thus our earliest recollections are never anterior to a certain progress in the art of speech. Man is gifted with few instincts, which appear to decline as his reason advances, this very freedom from the dominance of instinct by virtue of his acquisition of will being the reason why he has attained his present stature. Man is the architect of his own mind; animals, although wonderfully composed, lack the qualities of reflection and of language. In man, the act of thought or reflection stems directly from perceptions.

In 1818 there had appeared his apologia, *A Letter to the Governors of Bethlem Hospital.*[19] He explains that "considering the uncertainty of life, until I had communicated some opinions on professional subjects which had long occupied my reflections" he had delayed the publication of his narrative. The lapse of time had given him scope for reflection and enabled him to present his address to the governors in a manner free from rancour. But his duty to himself, to his children, and to the medical profession required that a true account of his dismissal be presented to the public. In the following fifty-eight pages he proceeds to give a good account of himself and to show quite conclusively how unjustly he had been treated, "sacrificed to public clamour and party spirit," and cast adrift without a pension, whilst the late hospital porter, "a shattered victim of gin and paralysis, basks in the sunshine of a pension." James Tilly Matthews figures prominently as Haslam's evil genius. It was he who furnished the Parliamentary Committee with a manuscript, the contents of which formed the basis of the cross-examination of Haslam and the other servants of Bethlem. Matthews had often threatened to make his manuscript public and, "pluming himself on the retaliation he could make for the supposed injuries he had received, he read to me the greater part of

it." Haslam admits he made a fundamental mistake, for he "conceived that its circulation ought not to be prevented, on the presumption, that there existed in the judgement of those who passed for persons of sound mind, a sufficient disrelish for absurdity, to enable them to discriminate the transactions of daylight, from the materials of a dream."

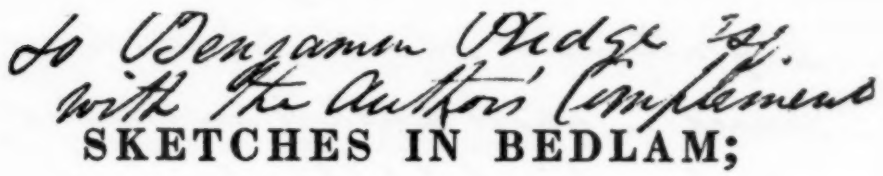
The document was to be Haslam's downfall, for there seems to have been sufficient truth in it of the mismanagement of the Bethlem. Although there is no suspicion from any material I have read of any incompetence by Haslam, Haslam himself gives a dreadful indictment of Bethlem during the time he was Apothecary in this 'Letter to the Governors'—the surgeon often drunk, the matron careless, the keepers profligate, gin-sodden, and venal, and the steward incompetent. It seems that Haslam was powerless to act, having no authority, but, on the other hand, there is no evidence that he tried to remedy such glaring abuses. He was at all times a clinician, and the gulf between clinical practice and administration is at times impossible to bestride. O'Donoghue,[31] the historian of Bethlem, has written "I have read the evidence of this Parliamentary Committee two or three times over, and I have read it with the judgement of one who has had twenty-two years experience of the extra-ordinary conditions under which the officers of an asylum have to work. After the fullest consideration of the report I endorse the opinion of one of the Governors that Haslam was 'sacrificed to public clamour and party spirit.' " With these conclusions one cannot fail to agree.

In 1823 there appeared a curious publication, *Sketches in Bedlam: or Characteristic Tracts of Insanity, as Displayed in the Cases of One Hundred and Forty Patients of Both Sexes, Now, or Recently, Confined in New Bethlem.* The author went under the title of "A Constant Observer," and it was quite obvious that he was, or had been very recently, on the staff of the hospital. The tone of the book is coarse and the disclosure of individual case histories unethical, so it was small wonder that the Governors were outraged. To obtain an injunction would no doubt promote the sale of the book, as the Governors had bitterly experienced in 1817 when dealing with William Lawrence's book *Physiology, Zoology and Natural History of Man.*[28] At a special meeting at Bridewell on 16 July and at Bethlem on 19 July the Governors recorded their displeasure.

Resolved that the publication entitled "Sketches in Bedlam" contains statements of the cases of several patients, the greater part of which are false and erroneous: that such statements are drawn up in almost every instance with unfeeling levity, in many cases with considerable inhumanity and in most with gross indecency; that the information conveyed to the public of the private history of the patients and their relatives, together with copies of their suppressed letters presents an abuse of confidence in some quarter: that the several statements of the cases of the criminal patients, both as to the crimes with which they are charged, and also as to their deportment in the hospital, are detailed in an equally offensive way: in addition to which there appeared printed various extracts from the hospital visiting book with the signatures of the persons making such entries; and the Committee is of opinion, on the whole, that the work in question is disgraceful to the writer, and disgusting to the reader, displaying an inexcusable violation of the confidence of the Governors in some person, who is, or has been, under their employ, and manifesting the most unkind and improper feeling towards the unhappy patients and their friends in making the public parties to their private history, their mental affliction, and their personal infirmities.

The calumny was spread around that the "Constant Observer" was John Haslam. Dr. Hood, Physician to Bethlem from 1852-1862, also believed that Haslam was the author, and the story has persisted, certainly amongst booksellers, to the present day. O'Donoghue "puzzled over the secret of the authorship" for many years until he came across the records of the two meetings at Bridewell and Bethlem. In these "Dr. Wright, the resident apothecary, stated that a 'late keeper, James Smyth' had 'verbally and by letter' avowed himself the author of the book. He refused, however, to produce the letter which (as he alleged) he had received from Smyth, and he declared that he had kept no copy of the letter, which he professed to have sent in reply to the former attendant." The suspicions of the Committee had by this time been thoroughly aroused, and they made an effort to secure a personal interview with Smyth to ascertain if he was the "Constant Observer"; Smyth, however, "respectfully declined to attend." O'Donoghue, who was a most careful historian, considered that he had solved the problem and that Haslam, of whom he writes affectionately, was not the author. Much as the present writer would like to agree, the puzzle had not been resolved. In the library of the Maudsley Hospital is John Conolly's copy of the book, with an inscription running as follows: "To Benjamin Ridge, Esq., with the Author's compliments." The calligraphy is that of Haslam, as a study of his handwriting shows (Figs. 2, 3, and 4). Haslam was undoubtedly being protected by Edward Wright when the latter informed the Governors that the keeper Smyth was author of the book. There is little

doubt that this book was an error of taste, but Haslam, as we have seen, had a streak of coarseness and arrogance in his nature which no doubt accounts for his lapse from grace. The book is now comparatively rare, as the governors seized as many copies as they could lay hands upon . It seems likely that Haslam was somewhat



SKETCHES IN BEDLAM;

OR

CHARACTERISTIC TRAITS

OF

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AS DISPLAYED IN THE CASES OF ONE HUNDRED AND FORTY PATIENTS

OF BOTH SEXES,

NOW, OR RECENTLY, CONFINED IN

NEW BETHLEM,

INCLUDING

MARGARET NICHOLSON, JAMES HATFIELD, PATRICK WALSH, BANNISTER TRUELOCK, AND MANY OTHER EXTRAORDINARY MANIACS,

WHO HAVE BEEN

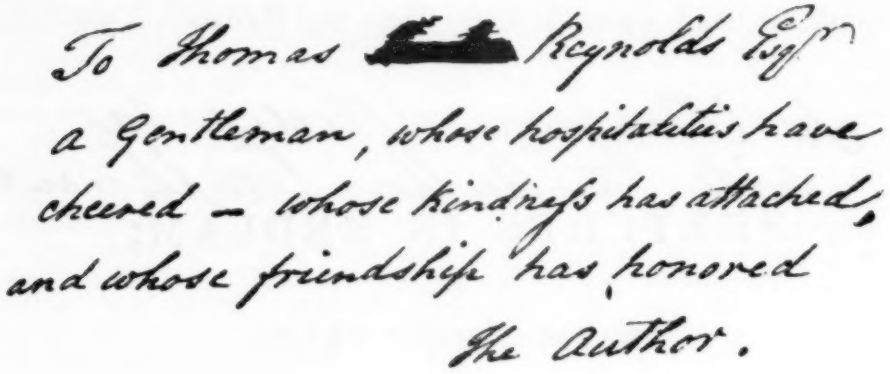
TRANSFERRED FROM OLD BETHLEM.

Fig. 2. Author's inscription on *Sketches in Bedlam*. Its similarity to known examples of Haslam's writing (see Figs. 3, 4) led to the assumption that Haslam was the anonymous author.

ashamed of this work, for to my knowledge he never confessed to its authorship, although he had never before hesitated to put his name to his writings. In this copy of the book belonging to Conolly is a note made in pencil by Conolly that Haslam was considered by Dr. Hood, a contemporary superintendent of Bethlem, to have been the author. Haslam evidently aroused strong feelings of like or dislike.

SOCIAL ACTIVITIES

Haslam's friends and enemies were legion. He was a well-known figure in literary as well as medical circles. William Jerdan, the


To Thomas [redacted] Reynolds Esqr.
a Gentleman, whose hospitalities have
cheered — whose kindness has attached,
and whose friendship has honored
The Author.

Considerations

ON

THE MORAL MANAGEMENT

OF

INSANE PERSONS.

Fig. 3. Inscription from the author, John Haslam.

energetic editor of the *Literary Gazette,* writes in his autobiography[26] that

> Dr. Haslam was a great gun for several years. Himself an original, and with a tinge of that eccentricity which seems frequently to have accrued from scientific devotedness to the medical treatment of insanity, and mingling much with insane patients: he was an astute and yet lively writer, with a vein of good humoured satire, which tickled everybody and hurt nobody. A series of clever papers, called 'The Barleycorn Club,' were from him, and principally by him.
>
> Haslam himself was very droll and entertaining in society, he had one literary patient to whom he was much attached—a Mr. R.—but the best jest with regard to whom was that during the half of the twelvemonths he was usually out of restraint he was absolutely employed to read the manuscripts and pronounce his judgement on the expediency or inexpediency of publishing productions submitted by numerous writers to one of the most extensive houses in the trade.

As to his medical friends, he is said to have been an acquaintance of John Hunter, for in his obituary notice in the *Lancet* is a statement that his conversation "abounded in anecdote, chiefly having reference to John Hunter, of whom he was an intimate friend, and for whom he had a very high respect." It seems unlikely that he had been any other than a student under Hunter. Mr. LeFanu has informed me that there is no record of Hunter's friendship with Haslam, and indeed as Hunter died in 1793, when Haslam was only 29, a close friendship seems improbable. Among his other physician friends were A. P. Buchan and William Charles Wells, the sponsors for his M.D. degree. Buchan and Wells had

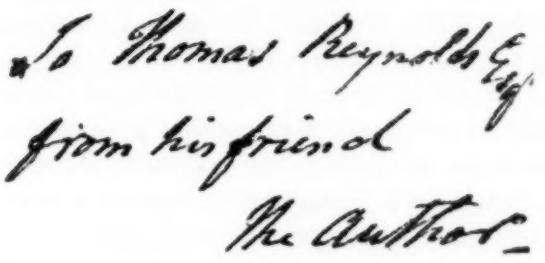


Fig. 4. Specimen of Haslam's handwriting.

also studied under the Hunters and Dr. George Fordyce. Haslam probably met them in these classes.

Later in his life Haslam was an intimate of Sir Alexander Morison, the founder of the well-known Morison Lecture at the University of Edinburgh. Morison was Physician to Bethlem from 1835 to 1853 and his diaries are now in the library of the Royal College of Physicians of Edinburgh. From these it is clear that Morison's most intimate friends in London were Dr. Sutherland of St. Luke's and John Haslam.[5] Morison had inaugurated a course of lectures on mental diseases in 1826 and at the first lecture, given at the Argyll Rooms on 9 February 1826, those present included Haslam, Willis, Burrows, and MacGregor. Spurzheim, the phrenologist, and Dr. MacMichael, the author of the *Gold Headed Cane,* attended later lectures. After Haslam's death Morison attested to his signature to some document, and their friendship was clearly a happy one, for when Morison founded the Society for Improving the Condition of the Insane in 1842, Haslam was one of the first to read a scientific paper before the Society.

In addition to his psychiatric acquaintances, Haslam moved freely amongst a wider circle of literary friends. He was an inti-

mate friend of William Kitchiner, M.D., the eccentric writer of the first really practical cookbook.[25] A private income of £2,000 a year allowed Kitchiner to entertain lavishly and his luncheons and dinners were memorable occasions. "To the former only intimate friends, like Charles Kemble the actor, Incledon the singer, and Dr. John Haslam the medical writer, were invited." Kitchiner was a prolific writer, and published books ranging from his *Aspicius Redivivus or the Cooks Oracle* to *The Economy of the Eyes.* Haslam and Kitchiner were also friendly with William Jerdan, the journalist, who was editor of the *Literary Gazette* for thirty-three years. Jerdan's aim was "to praise heartily and censure mildly" and he gathered around him a distinguished group of writers, including Crabbe, Miss Mitford, Thomas Campbell, and others. Haslam was a popular member of this literary group and wrote for the *Literary Gazette* for several years. In legal circles also Haslam was in demand as an expert witness and appeared in many cases. He was reputed to have been an excellent witness, although an anecdote in *Physic and Physicians*[3] suggests a certain pawky eccentricity reminiscent of the professional expert witness.

From 1827 to 1829 he was President of the Medical Society of London, which shows clearly how well his reputation had been reestablished. Haslam's portrait had been painted in 1812 by George Dawe, A.R.A., and was engraved by Henry Dawe. It was exhibited at the Royal Academy in 1831, It shows a man of strong features, with a firm lip and chin, but with a benign and humorous aspect. Unfortunately, the original painting has not been traced to date.

Later Years and Death

At the age of seventy-one, Haslam published a pamphlet *On the Nature of Thought, or the Act of Thinking,*[23] in which he reiterates some of the arguments he put forward in 'Sound Mind.' It is more religious in tone, frequent reference being made to the 'Supreme Artificer,' but very little different in its main theme. Thought is effected by the selection and arrangement of words, each of which has a definite meaning and may be used in a variety of combinations. The act of thinking, Haslam considers, "becomes unfolded in the progressive formation of a perspicuous sentence."

In 1843 when he was seventy-nine Haslam read his last three papers before the Society for Improving the Condition of the Insane. This Society had been founded by Sir Alexander Morison and the Earl of Shaftesbury in 1842, probably as a reaction to the

extreme 'non-restraint' school. The more conservative psychiatrists wished to show that psychiatry was not all 'non-restraint,' and the society numbered among its medical members Haslam, Monro, Sutherland, and Burrows. Prizes for essays and premiums for meritorious service by attendants were offered in an endeavour to improve the status of both psychiatry and the patient. The papers Haslam presented were "On Restraint and Coercion," "An Attempt to Institute the Correct Discrimination between Crime and Insanity," and "On the Increase of Insanity, with an Endeavour to Detect the Causes of its Multiplication."[24]

In the first essay he repeats his views on the necessity for some type of restraint, in the second he pleads that criminals be examined before their trial by a psychiatrist, preferably at Bethlem Hospital, so that the state of their minds could be accurately assessed. Having got into his stride, the old hard-hitting Haslam reappears for a moment when he writes of the "pretence and imposture of non-restraint." Lastly, he attempts to discover the reason for the increase in insanity. He rejects intemperance or political causes and maintains that it is because patients are discharged from hospital too soon. "If these persons are prematurely liberated under the presumption that they are cured, both women and men return to their husbands and wives, fully competent to transmit this disease to the offspring that may ensue from the more frequent intercourse that naturally results, and from the same causes those who are single require but little persuasion to the altar." Haslam throughout his career had been impressed by the genetic aspects of mental disorder, and although he was not in a position to investigate the subject fully, he had always expressed his belief in the importance of what is now called eugenics. Born into the great era of the gentleman, Haslam was no doubt somewhat autocratic, and indeed arrogant, and in these three essays this spirit re-asserts itself, and he has a last, dying fling at the newfangled school of psychiatrists, gentler and more liberal than in his day. These were his last works, for the next year, in July 1844, he died.

His obituary notice, in the *Lancet* of 27 July 1844, is somewhat condescending and most misleading. It must have been written by one of his enemies. It is worth quoting in full:

> The newspapers announce the decease of Dr. John Haslam, at his house in Lamb's Conduit Place, at the advanced age of 81. This well-known physician had retired from active practice for several years previous to his death. His labours in the cause of science exist in the form of a monograph on "Sound Mind" published in 1819, and a course of Lectures on

the Intellectual Composition of Man, delivered before the Medical Society of London, in the session 1827-28, and published at that time in the Lancet. Dr. Haslam was an amusing companion, and his conversation abounded in anecdote, chiefly having reference to John Hunter, of whom he was an intimate friend, and for whom he had a very high respect. Dr. Haslam's writings can scarcely be called those of a man of genius, they exhibit however, a profound knowledge of his subject, and a deep train of philosophic thought.[27]

HASLAM'S PLACE IN PSYCHIATRY

Haslam has been unduly neglected by the medical historian until recently when Zelmanowits[38] and Leigh[29] have published papers emphasising the importance of his writings. There is no doubt that he was by far the most original and discerning writer on psychiatry in the period from 1798 to 1828. He has left original descriptions of the simple dementing form of schizophrenia, of obsessional neurosis, and of manic-depressive illness. His was the first contribution in English on forensic psychiatry,[29] and he was the most concise and lucid expositor of the moral management of the insane. His eminence was recognised in France, Germany, and America.

Pinel, in his *Traité Medico-philosophique sur la Manie* published in 1801, mentions Haslam more frequently than any psychiatrist except Ferrier. Although Pinel is somewhat sarcastic in his references to England, he clearly has a considerable respect for Haslam and amplifies many of his own conclusions by quotations from Haslam. Although this is not the place for a detailed comparison of the two men, it is difficult to understand why Pinel should appear to posterity as the greatest psychiatrist of the period. With revolutionary fervour, and a dramatic gesture, he cast off the chains of the lunatics in the Bicêtre, but a study of his writings shows that in effect this was indeed largely a gesture. His book abounds in references to restraint and coercion, and his practice differed in few respects from that of Haslam. It is an interesting comment on fame that Haslam, a far more original and discerning writer, was to be dismissed from his post and his memory allowed to lapse into obscurity, whilst Pinel was to go from success to success and his name remain a household word in psychiatry. Both men were undoubtedly the leaders of psychiatric thought at the time, but a study of Haslam's work will leave little doubt as to which one has left more in solid merit to posterity.

It is interesting to speculate on the reasons for Haslam's comparative obscurity. The hostility toward Haslam of the rising school of 'non-restraint,' headed by Tuke, Conolly, and Hill, and

the xenophilic zeal of Prichard have no doubt contributed toward this. Haslam's personality, however, seems to provide the real reason—his disgrace, his biting comments on contemporary psychiatrists, his authorship of *Sketches in Bedlam*, and his 'die-hard' attitude toward the reformers, and no doubt his very real talent must have made him a difficult man to deal with. As a young man he had shown at Edinburgh his aggressive nature and his readiness to notice a slight. The proud and harsh old man may have been convivial in his literary circle, but he was poles apart from the younger psychiatrists. His opinions were to be disregarded and forgotten as this new generation grew up. It has required a century and a quarter for his reputation to be re-established.

ACKNOWLEDGMENTS

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A Note on the Early Relations Between Scientists of Mexico and the United States

(Luis José Montaña and Samuel L. Mitchill)

J. J. IZQUIERDO*

THIS paper was prepared with the purpose of presenting for the first time some information concerning the brief relation which during the years 1818-1819 linked together Dr. Luis José Montaña (1755-1820), professor in the Medical Faculty of the Real y Pontificia Universidad de México, and Dr. Samuel L. Mitchill (1764-1831), professor in Columbia College and in the College of Physicians and Surgeons of New York.

A. THE CORRESPONDENTS

1. *Samuel Latham Mitchill*[1,2] was born in North Hempstead, Long Island, New York. While the British were occupying the City of New York in 1783, Mitchill availed himself of the opportunity to attend the Edinburgh Medical School where he received instruction from such prominent teachers as Cullen, Black, Duncan, and Monro and from which he was graduated with high honors in 1786.

Upon returning to New York he was appointed Professor of Agriculture and Chemistry in Columbia College and, later on, of Natural History, Botany, and Materia Medica at the College of Physicians and Surgeons. He was an ardent supporter of Lavoisier's new ideas, made valuable studies on fishes, and described the "ethnological characteristics, benevolent nature and generous spirit of the red man of America."[3]

Mitchill gained renown as a clinician at the New York General Hospital and as a student of materia medica who "delighted to dwell on the riches of the native products of the country for the art of healing."[4] He had efficient knowledge of some foreign languages, both old and modern, and also some talent for poetry.

* México, D.F.

1 Information for the following summary is taken from John W. Francis. *Reminiscences of Samuel Latham Mitchill, M.D. LL. D.*, enlarged from *Valentine's City Manual* (New York, J. F. Trow, 1859). See note 2, for a more recent book on Doctor Mitchill.

2 Hall, Courtney Robert. *A scientist in the early republic: Samuel Latham Mitchill, 1764-1831*. New York, Columbia University Press, 1934.

3 *Loc. cit.* in 1, p. 7.

4 *Ibid.*, p. 14.

Of the numerous papers he wrote, some were published in the *London Philosophical Magazine,* others in *The Medical Repository*[5,6] (the first medical journal in the United States, which he and some collaborators started in 1797), and in *The American Medical and Philosophical Register.*

Some of his writings were devoted to comment regarding current doctrines on pestilence and to discussion of his own ideas on the subject. In one of his papers issued in 1813 he gave an account of the history of botany, mainly in North and South America,[7] traced from the "collection of plants given to Adam to dress and to keep, under certain directions and restrictions" in the garden of Eden.[8] Unfortunately, the bibliographical references he gave in that work were extremely vague and occasionally inaccurate. The errors are illustrated by the following:

(i) Because he had not seen Fray Francisco Jiménez' condensed version[9] of Francisco Hernández' original manuscript on the plants and animals of New Spain, and also because he was ignorant of the fact that this extremely important original work had finally been printed in its entirety in 1790,[10] Mitchill asserted[11] that it had been published for the first time in the city of Mexico in 1615.

(ii) Mitchill labeled the Royal Botanical Expedition to New Spain[12] the "Sessé-Mocino Expedition."[13] This was wrong, for the

5 *The Medical Repository.* Conducted by S. L. Mitchill, E. Miller and Elihu H. Smith (Quarterly). New York, T. & J. Swords, vols. 1 (1797) to 23 (1824).

6 Subsequently Dr. Felix Pascalis (1750-1833), to whom reference will presently be made, joined the editorial board. Dr. George Rosen has been kind enough to furnish the following complementary information on Pascalis: "He was a French refugee physician from the island of Santo Domingo who came to the United States when the slaves revolted. He settled first in Philadelphia and then in New York. As much as Mitchill, he was interested in epidemic diseases and was in contact with physicians and scientists in other countries."

7 Mitchill, Samuel L. *A discourse delivered . . .* 6th December, 1813 embracing a concise and comprehensive account of the writings which illustrate the botanical history of North and South America. *Collections of the New York Historical Society,* 1814, vol. 2, pp. 149-215.

8 *Ibid.,* p. 156.

9 Hernandez, Francisco. *Quatro libros de la naturaleza y virtudes de las plantas y animales que estan recevidos en el uso de la medicina en la Nueva España* y la methodo, y corrección y preparación que para administrarlos se requiere, con lo que el Doctor Francisco Hernández escribió en Lengua Latina [etc.] Traduzido, y aumentados muchos simples y compuestos y otros muchos secretos curativos, por Fr. Francisco Ximenez, hijo del Convento de S. Domingo de México, &. México, Casa de la Viuda de Diego López Davalos, 1615. 203 *ll.*

10 Hernández, F. Medici atque Historici Philippi II, Hisp. et Indian Regis et totius Novi Orbis archiatri, *Opera de historia plantarum Novae Hispaniae.* Cum edita, tum inedita, ad autographi fidem et integritatem expressa, impensa et jussu regio. Matriti, ex Typographia Ibarrae Heredum. Anno MDCCLXXX. 3 tomos.

11 *Loc. cit.* in 7, p. 166.

12 See Rickett, H. W. The Royal Botanical Expedition to New Spain 1788-1820, as described in documents in the Archivo General de la Nación (México) now translated and collected by H. W. Rickett. *Chronica Botanica,* 1947, *11,* pp. 1-86, pl. 44-45.

13 *Loc. cit.* in 7, pp. 206-207.

brilliant Creole, José Mariano Mocino (1757-1820), did not join the expedition until three years after the original members of the group had arrived in Mexico.[14]

(iii) Mitchill carelessly ascribed the authorship of a paper on the *arbol de la manita* (cheirostemon)[15] to "Don L'Arreátegui"[16] when it rightfully belonged to the botanist Don Vincente Cervantes (1755-1829). Apparently Mitchill's confusion was due to the fact that the paper appeared in a pamphlet which also contained an address made in 1795 by Bachiller Don Dionisio Larreátegui.

2. *Luis José Montaña*[17] was born of Spanish descent in the city of Puebla. Although a foundling and thus greatly handicapped early in life, he succeeded because of his capabilities in obtaining the degree of Master of Arts in the Colegio de San Pedro at his home city, in completing the courses for medicine at the Real y Pontificia Universidad de México, and in passing the final examinations for medical practice in 1773. Soon after legal recognition of his birth which led to improvement in his social standing, he succeeded in getting additional degrees as Licenciate and Doctor in Medicine (1790). He also began participating in competitions for university chairs but without success, for it was a time when seniority counted far more than merit in the final election.

But his repeated failure to secure a teaching position, in which he would have been compelled to act in accordance with the extremely backward conditions perpetuated in the University by scholasticism, far from discouraging him increased his liking for study and made him devote himself to private teaching. He became interested in botany, also in chemistry, which was then wholly ignored by his fellow members of the medical profession, and in modern science, which was just coming into existence. As a student

[14] See 7, p. 25.

[15] Authorship by Cervantes attested by Miguel Colmeiro. *La botánica y los botánicos de la Península Hispano-Lusitana.* Estudios bibliográficos y biográficos. Madrid, M. Rivadeneyra, 1858, p. 184; also by Cavanilles in *Anales de Ciencias Naturales de Madrid*, 1803, vol. 4, pp. 303-314. A reproduction of the latter will be found as an Appendix (*Colección de documentos para la historia natural*) in *La Naturaleza* (México), 1884, pp. 33-38.

[16] *Loc. cit.* in 7, p. 212.

[17] The brief and rather incomplete information already available on Montaña served only to show in very general terms the importance of the efforts he made early in the nineteenth century to promote progress in medicine and natural science in Mexico. Hence, the author, upon gathering together new materials on his activities and writings, used them for study of the social and scientific environment amid which he lived. The result was his forthcoming book, *Montaña y los orígenes del movimiento social y científico de México*, in which more ample information will be found.

of Hippocrates he was an enthusiastic proponent of medical practice based on direct observation of conditions of the sick, and even tried in 1805 to initiate, for the first time in the city of Mexico, a chair for teaching at the patient's bedside. General lack of understanding did not permit him to continue with this type of work, but at least he was able to make observational studies in his hospital wards on the healing powers of a number of plants, mainly indigenous to the regions around the cities of Mexico and Puebla.

The translation he made into Spanish of John Brown's *Elementa Medicinae*[18] gave him some comprehension of the importance of functional conceptions of disease, and this, together with his reading of modern writers, brought him to maintain, first in 1802[19] and more particularly in 1817, that medical progress could only be made, apart from direct observation of patients, from interpretation of the data thus secured in light of a new physiology based on physical and chemical data, and from the employment of the same method of research in other sciences.

As a citizen, Montaña cleverly upheld the protest of his American-born fellows against the unfair treatment accorded them by "Europeans"—i.e., Spaniards born in Spain—and thus contributed to the national desires for political freedom. Consequently, when under the brief period of the Cadiz Constitution (1812), popular elections for the City Council (Ayuntamiento) were held for the first time in the Mexican capital in 1813 with the result that only American-born candidates were elected, the American group nominated Montaña as their counsellor in public health matters, and gave him sufficient power to dictate all kinds of measures against the severe epidemic (probably typhus fever) then raging all through the city.

In 1815 Montaña succeeded at last in getting the long-cherished chair in the University. But the wave of absolutism stirred up in Spain by Ferdinand VII's return to the throne soon reached New

[18] *Elementos de medicina del Doctor Juan Brown,* catedrático de Edimburgo. Traducidos del Latín al Castellano por el Dr. D. Luis Montaña, Médico de esta Capital, Académico de la Real Academia Matritense y Catedrático de Clínica, nombrado por S.M. (q.D.g.). Escrito en México por un discípulo del Traductor e ilustrado con notas de su Maestro. Two handwritten volumes, 104 x 152 mm.; the first with 264 pages with the translation, plus 50 with Montaña's additional comments; the second with 366 pages with text and index but no comments.

These two volumes very probably are the only existing copy of Montaña's translation, which was never printed. They remained unnoticed on the shelves of the general library in the Medical Faculty, where they were recently discovered by the author.

[19] Montaña, Luis. Discurso en la abertura del curso de botánica, 2 de junio de 1802. *Anales de Ciencias Naturales (Madrid),* 1803, *6,* 199-222.

AVISOS IMPORTANTES

SOBRE EL MATLATLTZAHUATL,

O CALENTURA EPIDEMICA MANCHADA

QUE PASA A SER PESTE

Y QUE ES FREQUENTE EN ESTA N. E.

CON UN MODO SENCILLO Y FACIL

DE SOCORRER A LOS ENFERMOS

DONDE NO HAYA MEDICOS QUE LES ASISTAN,

Y CUYA EFIÇACIA Y SEGURIDAD

SE EXPERIMENTO EL AÑO DE 1813,

En que el Autor Dr. D Luis Montaña fué comisionado por el Superior Gobierno y por el Exmô. Ayuntamiento para establecer y dirigir el método dentro y fuera de la Capital.

MÉXICO: 1817.

Imrenta de D. Mariano de Zúñiga y Ontiveros, calle del Espíritu Santo.

Fig. 1. Title-page of Montaña's work on the epidemic spotted fevers he had observed in 1813.

Spain and was used against Montaña by his enemies (scholastics and partisans of the "European" party). In the hope of neutralizing their efforts, Montaña began publishing some of his recent studies, among them, his *Avisos*[20] or account of the epidemic of 1813 (Fig. 1). He also used the early part of *Praelectiones*[21] (Fig. 2) as a basis for his lectures at the University. All was in vain, and he was forced to resign after scarcely two years of teaching in the old institution. Soon afterwards he became ill and died on 26 June 1820, without seeing the achievement of Mexican national independence, proclaimed on 21 September 1821.

B. Connection Through Secret Links

Practically no scientific interchange between the United States of America and New Spain occurred during the two first decades of the nineteenth century. This was the result of the Spanish Government's systematic opposition to all direct communication between her American dominions and foreign countries, particularly the new republic of North America where representatives from the American patriots were constantly and secretly going in search of political and financial help. It is probable that upon being informed by some of these patriots of Dr. Mitchill's scientific standing and position as chief editor of *The Medical Repository,* Dr. Montaña decided to send him his two main productions and a letter through these channels. His messenger's contact with Mitchill must have been an easy one, since the latter had been following with great interest the struggles for freedom in different American countries. In fact in 1811 Mitchill expressed very freely his sympathies for the American countries before the American Congress.[22] Receipt of the letter and pamphlets was acknowledged in an article presently to be our concern.

20 Montaña, Luis. *Avisos importantes sobre Matlatltzahuatl, o calentura epidémica manchada,* etc. vi + 56 pp., 22.2 x 15.7 cm. Inquiries through many libraries, both at home and abroad, have revealed the extreme scarcity of this book. The only existing copy known is the property of Dr. Samuel Fastlicht who kindly loaned it to the author.

21 Montanna, Aloysio Iosepho, D. M. *Praelectiones et concertationes medicae pro Hippocratis magni aphorismis,* etc. [10], 98 pp., 14.5 x 20.6 cm. This, too, is a rare book, the only known to the author being preserved in the Biblioteca Histórica de la Secretaría de Hacienda in Mexico City. A Spanish version of the *Praelectiones,* which the author had to prepare as part of the material needed for his forthcoming book on Montaña (see note 17), is in press at the University of Mexico as part of the book *El Hipocratismo en México,* which also includes a facsimile edition of the extremely rare original Latin edition of the *Praelectiones.*

22 *Niles' Weekly Register,* 1811, *1,* 270. Quoted by Hall, (note 2), p. 113.

D. O. M.

PRAELECTIONES ET CONCERTATIONES MEDICAE
PRO HIPPOCRATIS MAGNI APHORISMIS
EX VERSIONE ANUTII FOESII
IN USSUM SCHOLARIS IUVENTUTIS
AD IMPLENDAS STATUTAS A. V. LEGES
CXXIV. CXLVIII. CXLIX.
CCLVI. CCLV. INTERPRETANDIS.
PRAESIDE
ALOYSIO IOSEPHO MONTANNA D. M.
SANCT. FID. TRIBUN. MEDICO AC MINISTRO.
REGAL. ACADEM. MEDIC MATRIT. SOCIO.
REG. PROTOMEDICAT. DECANO
REGAL. GEN. NOSOCOMIOR. CARCERUMQ. MEDICO
REG. AC PONTIF. UNIVERSIT.
MEDICINAE PUBLICO PROFESSORE VESPERTINO.

(D. L. A. R.)

MEXICI: M. DCCC.XVII.
Apud Marianum Zunnigam & Ontiverium,
in via Spiritus Sancti.

Fig. 2. Title-page of Montaña's *Praelectiones.*

C. MITCHILL-PASCALIS ACCOUNT OF DR. MONTANA AND HIS WORK

In their journal's most important section, that devoted to original essays, Drs. Mitchill and Pascalis published an article[23] (Fig. 3) devoted not only, as its title suggests, to an analysis of Montaña's paper on the fevers he had observed in 1813, but also to a brief estimate of his *Praelectiones* which they described as a "valuable and truly original work on the aphorisms of Hippocrates . . . undertaken to arrange systematically . . . all subjects treated by the immortal sage, with his own Latin comment, . . . for the use of students, and it surpasses, in point of practical usefullness, any thing of the kind we have seen";[24] finally, they added an appreciation of the author.[25]

Before taking up their review of Montaña's paper on the 1813 epidemic of *Matlalzahuatl,* the reader should know that this was a term which the Aztec medical men most fittingly coined from the suffix *tzahuatl* (an exanthem) and one or the other of these two prefixes: either *matlalt* (net) to suggest the net-like distribution of the rash, or *matlallin* (blue) alluding to the bluish hues it exhibits on the skin of the Indians.

To begin with, they reproduced (see Fig. 3) the conclusions of the "learned Montanna" that the epidemic had neither been imported into the kingdom of New Spain nor had a contagious character.[26] They also transcribed the clinical picture[27] given by him, which made them recognize that 'as far as he had endeavoured accurately to describe this universal epidemic, he had been guarded against restraining medical investigation, or inquiry, by *Arabico-Scholastic* nosologies or nomenclatures.' Furthermore, they fully approved his maintaining that 'nothing was more absurd in medicine, than pure rationality itself, and theoretical ideas, without experience and facts to support them."[28]

In view of Montaña's clinical picture, they wondered if *Matlalzahuatl* was not 'the same disease which during many years had

23 Mitchill, Samuel L., and Pascalis, F. Facts and observations on the Matlaltzahuatl, or spotted fever of the Mexicans, as prevailed before and during the spring and summer of 1813, etc. *Medical Repository,* 1820, *n.s. 5,* 1-10.

24 *Op. cit.* (note 23), pp. 9-10.

25 In presenting him as Dean of the Faculty, it should be explained that this was in the sense of his being oldest among the professors and not as director of the Faculty. The other title assigned to him as Rector of the University was never held by Montaña. This possibly was suggested by his messenger who thus reflected the wishes of the American patriots who hoped to have him placed in that office once the political independence of his country was secured.

26 *Op. cit.* (note 23), pp. 1-2.

27 *Ibid.,* pp. 6-7.

28 *Ibid.,* p. 7.

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ORIGINAL ESSAYS.

FACTS *and* OBSERVATIONS *on the* MATLALTZAHUALT, *or* SPOTTED FEVER *of the* MEXICANS, *as it prevailed before and during the spring and summer of* 1813. *Translated for the Medical Repository, from the Spanish account of Professor* A. J. MONTANNA, M. D. *Dean of the Faculty, and Rector of the Royal and Pontifical University of Mexico, &c. as communicated to Professor* SAMUEL L. MITCHILL, *by* Dr. F. PASCALIS.

1. THAT *this epidemic was not imported into the kingdom of New Spain*, is the first object of inquiry of the learned author. He proves it, firstly, from a great number of prisoners of war, which, during two years, were brought in from various distant countries and sea coasts. In their way, they had sojourned in unhealthy and damp places, where malignant intermitting fevers and other epidemics were prevailing. They had intercourse with Indians, mostly afflicted with leprosy. Yet not a greater number than 500 of those prisoners have been in the hospitals with the ordinary jail or hospital fever.

At a large town (Puebla) on the road from the sea, it had been observed, that no traveller, no bales of goods whatever, could have been a vehicle of the supposed contagion; although another disease has long raged in it, probably the yellow fever, and although large bodies of recruits from thence have been employed in the royal army.

Fig. 3. First page of the Mitchill-Pascalis account on Montaña and his two main productions. See note 46.

prevailed in . . . New England, . . . and was by many called spotted fever'; this they supposed to be the case, for the sake of nosologists, although perhaps merely a variety.[29] What surprised them considerably was that during the Mexican epidemic "numerous instances of lumbric worms" had been observed similar to those they had witnessed in Philadelphia during a yellow fever outbreak in 1793.[30] They regretted not finding "in the Mexican account any stated proportion of the mortality," which they admitted had been very great.[31]

As to the "most probable causes" of the epidemic, the reviewers admitted that Montaña had "justly placed them in certain atmospheric elements,"[32] but were not prepared to follow him in his philosophical ideas or from 'analyzing, adopting, or refuting any of the recent or ancient medical systems (Brown, Bichat, Chaussier) which he seemed to cherish the most,' but of course 'had full right to adopt.'[33]

But once all these matters were set aside, they 'thought it their duty to address their hommage of respect,' to Montaña's "personal attributes . . .; to his scrupulous attention (like that of the great Coan sage) to seasons, to climate, to local causes, and to the physical and moral constitution of the inhabitants of his country."[34] His description of the life, habits, regular food, and practice of the Mexican Indians attracted them so much that they promised to have it summarized for their readers "at a future day."[35]

For Mitchill and Pascalis, 'in Mexico, as well as in meridional estates in Europe, practical medicine, however correct and judicious, was certainly neither efficient or active enough.'[36] But this was no obstacle to their summarizing in three pages Montaña's practical considerations and 'his apparently successful mode of treatment,'[37] nor their regretting 'that time or space did not allow them to make a literal translation of the work of a truly learned, humane, and honest physician.'[38]

They greatly applauded his stand in the treatment of fevers generally taken as inflammatory, in condemning bleeding 'as much as they had reproved it in *pneumonia typhoides*.'[39] Among remedies used by him for treatment, they were impressed most by his intro-

29 *Ibid.*, p. 9.
30 *Ibid.*, p. 4.
31 *Ibid.*, p. 10.
32 *Ibid.*, p. 8.
33 *Ibid.*, p. 8.
34 *Ibid.*, p. 8.
35 *Ibid.*, p. 8.
36 *Ibid.*, p. 6.
37 *Ibid.*, pp. 6-9.
38 *Ibid.*, p. 6.
39 *Ibid.*, p. 8.

duction "as a singular tonic, febrifuge, and anthelmintic of the saturated tincture[40] of the *Faba St. Ignatii,* one of the family of strychnos, which must, no doubt, have a great influence on the nervous system."[41,42]

The reviewers inferred that during the period Montaña had been "empowered and authorized by government to advise and direct the medical police, and the whole faculty of that immense capital"—Mexico City—he for certain had "done great good to his fellow citizens and allayed their distress."[43] This inference was made from appreciation of "two circumstances in his writings: The one is a kind and respectful address to his fellow practitioners, whom he intends to direct in their humane services, without upbraiding them either by upstart opinions, or by an undue sense of their inferiority, much less by an importunate surmise of his superiority [and by] scrupulously avoiding also to provoke any useless or untimely controversy. The other is, his successful mode of counteracting the absurd opinions of *importation* and *contagion,* by which he has more endeared his fellow citizens, like one family, to take care of each other, without the dread and horror of being deadly to each other, while they were aflicted with a general calamity."[44]

Naturally, Mitchill and Pascalis did not fail to appreciate the reverse of the coin, depicted by Montaña:[45] "Eloquent indeed, bitter and frequent are the reproaches he freely pronounces against the pernicious class of men, who in time of so dire a calamity, exercise a thousand charlatanries to alarm or to deceive the sufferer, to blame or to discredit public measures, to prescribe medicines, having not qualifications so to do, and to deal with drugs or specifics, retaining not any responsibility whatever; quacks, pretenders, pseudo-philosophers, venders of nostrums, hateful and corrupt intriguers." Thus Montaña characterized them, in words

40 What Montaña actually prescribed (*loc. cit.* in *21,* p. 55) was not "saturated tincture" but a "spirituous tincture" (impossible to define as to proportions used for preparation which were extremely variable in his days), to be diluted by mixing four parts of the same with one of tincture of cinchona bark.

41 *Loc. cit.* in *24,* pp. 8-9.

42 Experimental pharmacological knowledge of the actions of Strychnos plants began in 1809 with the report by F. Magendie and R. Delille: *Proc. verb. Acad. Sci., (Paris),* 1809, *4,* 242, 275. Strychnine was isolated later by J. P. Pelletier and J. B. Caventou: *Proc. verb. Acad. Sci. (Paris),* 1818-1819, *6,* 392, 412; *Ann. Chim. Phys.,* 1819, *10,* 142.

43 *Op. cit.,* (note 23), p. 10.

44 *Ibid.,* p. 10.

45 *Ibid.*

taken from Horatio (Sat. 11, lib. 1): *Ambubaiarum Collegia, Pharmacopolae, Mendici, Miomae, Balatrones, hoc genus omne.*"

C. THREE BRIEF COMMENTS

(i) Since Montaña died in June 1820, it is probable that he never enjoyed reading the article[46] which so fully recognized and appreciated the efforts he had made for reformation and progress in medicine, efforts which in his own country had met only with insurmountable opposition stemming from lack of comprehension and sympathy.

(ii) So wide a recognition and appreciation of Montaña's personal character, writings, and undertakings apparently is to be credited to Dr. Mitchill who had certain moral and intellectual trends of mind in common with Montaña and shared with him the same interest in the new fields of science.

Viewed from the moral side, both were equally conscious of personal values and loved fame, but neither sought nor desired the ostentatious displays of luxurious and fashionable life and lived always with modesty, unremitting industry, and great simplicity of habits, and were ready to give counsel to all who might need it, poor or rich, humble or mighty, with their minds always free from sordid consideration. As a result of the rigid discipline they received in youth (Quaker for Mitchill, Catholic for Montaña) they both illustrated through life the value of sound morals, upright conduct, and the excellence of sound ethics. But far from being driven by their apostolic faith into long meditations on the megalonix or on the *Horae Paulinae,* both showed their devotion rather in the study of the works of God.

From the intellectual side, it may be said that both men had a keen professional interest, for which they were greatly admired, in gaining direct information from bedside study of their patients, and they both realized that the dawn of the new science and of scientific medicine was already upon them. Even more than as practitioners, they acted as professors who sowed valuable seeds of progress which turned into mighty crops of disciples.

A final similarity to be pointed out in the lives of these two great pioneers of medicine on the American continent is that both

[46] The precise date of publication was omitted in the issue of the *Medical Repository* with this article (see note 23 and Fig. 3)

had to suffer from malicious detractors and enemies in the ranks of the scholastics.

(iii) From now on, the connection between Mitchill and Montaña will be remembered as perhaps the earliest which existed between two learned men of the North American and Mexican nations, who had mutual appreciation for each other's contributions for which they have now the well-deserved esteem and respect of posterity.

Historical and Bibliographical Review of Tuberculosis in the Mentally Ill

E. R. N. GRIGG*

Ultimate scientific ideas turn out to be merely symbols of the actual, not cognitions of it.
Herbert Spencer, *First Principles* (1866), § 22.

As of today the mental institution is one of the few remaining strongholds of tuberculosis, perhaps its last stand in civilized countries. A perusal of the literature in an attempt to locate the "first" mention of tuberculosis in the mentally ill showed it to be so long ago that the material uncovered in the search[1] appeared in itself suitable for an essay.

Histories of medicine gave no specific information, although foremost texts were consulted: Sprengel (1792-1803), Renouard (1846), Haeser (1875-81), Gorton (1910), Buck (1917, 1920), Garrison (1929), Castiglioni (1936), etc. Even historical monographs devoted to tuberculosis[2] and psychiatry[3] offered but incidental mention. Also unrewarding was the reference to reputed studies on epidemiology of tuberculosis, such as the philosophical dissertation of Gottstein (1931), or the books by Etienne Bernard (1946), Giovanni L'Eltore (1947) and Rolf Griesbach (1948). A brief discussion of the subject is also found in the otherwise comprehensive commentary on World Health Organization statistics by John McDougall.[4] And yet the literature is replete with publications regarding this topic.[5]

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1 Over 2,500 items have been reviewed, more than half of which contained material pertinent to this topic. Such a plethora precluded citation of all the sources, and many authors are quoted by name and date only. Book titles can be identified in the catalogues published by the Library of Congress and the British Museum. Paper titles may be found in either *Index Medicus* or *Index Catalogue;* unfortunately, the former's publication date is often delayed, the latter's is indefinitely postponed because of the malignant post-war growth of medical literature. For details on the mixed blessing of professional graphomania see p. 55 *et seq.* in J. F. Fulton's *The great medical bibliographers,* Philadelphia, University of Pennsylvania Press, 1951.

2 (Cities indicate the place of publication.) Louis Waldenburg (Berlin, 1869); Heinrich Johne (Leipzig, 1883); Eric Sattler (Cincinnati, 1883); August Predöhl (Hamburg, 1888); George Evans (New York, 1888); A. Ott (Jena, 1903); Louis Landouzy (Philadelphia, 1908); Lawrence Flick (Philadelphia, 1925); Marius Piéry & Jean Roshem (Paris, 1931); Arcangelo Ilvento (Rome, 1933); Gerald Webb (New York, 1936); Rudolph Schneller (Berlin, 1939); Lawrason Brown (Baltimore, 1941); Stevenson Cummins (London, 1949).

3 Robert Burton (London, 1621); Heinrich Damerow (Berlin, 1829); Johann Friedreich (Würzburg, 1830); Louis Calmeil (Paris, 1845); Heinrich Laehr (Berlin, 1900); S. Kornfeld (Jena, 1905); Theodor Kirchhoff (Vienna, 1912); Henry Hurd (Baltimore, 1917); Emil Kraepelin (Berlin, 1918); James Whitwell (London, 1936); Gregory Zilboorg & George Henry (New York, 1941); Nolan Lewis (New York, 1941).

4 *Tuberculosis.* Baltimore, Williams & Wilkins, 1949 (p. 272).

5 References may be found in: (a) Morselli, A. *La tubercolosi nella etiologia e nella patogenesi delle malattie nervose e mentali.* Torino, Utet, 1907. (b) George, O. A bibliography of tuberculosis and dementia praecox. *Dement. Praec. Stud.,* 1919, 2, 7-10. (c) Zalla, M. Tubercolosi e malattie mentali. *Riv. Pat. nerv. ment.,* 1923, *28,* 125-231. (d) Blumen-

The matter of priority and amount of reciprocal influence of ancient Hindu and Greek medicine still puzzle the historians. Early sources of both Sanskrit and Hellenic origin list mental diseases among the causes of consumption. Galen[6] (131-201) discussed *'hectica ex ira ac moerore,'* but Susruta[7] (5th century) mentioned only grief as the affective pathogenic factor. The implication of dual causality[8] was to reappear in the writings of Aetius Amidenus[9] (6th century), a Byzantine physician, and of Haly ben Abbas[10] (?-994), a Persian mage; it was factually acknowledged in the therapeutics of Giovanni Ferrario[11] (12th century), a Salernitan magister, was cited in *Rosa Anglica* by John of Gaddesden[12] (1280-1361), professor of Merton College in Oxford, was interpreted (*teste* Gal.) by the medieval authority Nicollò Falcucci[13] (?-1412), was accepted in the textual commentary to Rhazes' therapeutics by Giammatteo Ferrari da Grado[14] (?-1472), and was repeated (*teste* Hal.) in *Rosa Gallica* by the medical lexicographer Symphorien Champier[15] (1472-1539). These references acquire a particular significance in connection with the Hippocratic[16] statement that persistent mental depression must be considered as a melancholic state. The surgeon Ambroise Paré[17] (1510-1590) or maybe a ghost writer (the master never specialized in medicine)

feld, F. *La tuberculose des déments précoces.* Thèse. Paris, Rodstein, 1933. (e) Bonhour, A. Tuberculosis y enfermedades mentales. *Rev. Criminol., B. Aires,* 1935, *22,* 648-680. (f) Rizzo, C. Infezione tubercolare e schizofrenia. *G. Med. mil.,* 1938, *86,* 479-502, 618-635 (230 references, but only in the reprints). (g) Berle, B. B. Emotional factors and tuberculosis. *Psychosom. Med.,* 1948, *10,* 366-373. (h) Robert, J. Tuberculose et démence précoce. *Progr. méd., Paris,* 1951, *79,* 52-63. (i) USPHS Bibliography on tuberculosis in mental patients. Included with reprints of papers on tuberculosis, published in the March, April, and May 1952 issues of *Ment. Hosp., Wash.*

[6] *De differentiis febrium,* i, 12. On p. 48 in the pocket edition (Lugduni, Rovilius, 1570), from the Florentinus translation with commentary by Hector Gibalto.

[7] *Ayurvedas,* Uttaratantra cap. 41. Pp. 92-6 in Franz Hessler's Latin translation (Erlangae, Enke, 1844).

[8] *Ira* (fury, madness, elation) and *tristitia* (gloom, sadness, depression) are basic aspects of mental illness. Similarly to the Persian Ormazd and Ahriman, the Chinese Yin and Yang, or the adrenergic and cholinergic types of physiological response, they should not be construed as antipodes but, however asymmetrical, as pendular alternations.

[9] *Tetrabiblion,* II, i, 92. On col. 221 in the translation of Janus Cornarius, (1516), reprinted by Stephanus (1567) in *Medici artis principes.*

[10] *Liber totius medicinae,* Theorice viii, 7. Fol. 95 *verso* in the Stephanus translation (1127), printed at Lyons, 1523.

[11] *De curis febrium.* Codex salernitanus (Bibl. Angelica, Ms. #1506), fol. 115a. Details on Ferrario may be found in Giacosa, P. *Magistri salernitani nondum editi.* Torino, Bocca, 1901 (p. 61).

[12] ii, 9. Fol. 65 *recto* in the Pavia 1492 edition.

[13] *Sermones medicinales,* II, iii, 4. Fol. 65 *verso* in the Venice 1491 printing by Bernardino Tridio de Monteferrato.

[14] *Practica,* ii, 54 (v. 1, f. 200a in the Pavia 1471 edition). For publication date see H. M. Ferrari, *Une chaire de médecine au XV^e siècle.* Paris, Alcan, 1899 (p. 63).

[15] vi, 3. F. 93 in the 1513 printing (Paris, Ascensius), containing also the *Margarita.*

[16] *Aph.* 6, 23.

[17] *Oeuvres,* 2d ed. Paris, Buon, 1579, ix, 35 (p. 388). In the first edition (1575), the fever tract is separated, in the 2d it belongs to *Des plaies en particulier.*

elaborated on *hectica* originating from "quelque grande, forte, & longue faschérie ou cholère, la cause & impression d'icelle pérsévérant longtemps."

The iatrochemist Franciscus Sylvius[18] (1614-1672) described the affection *'phthisis ab animi moerore,'* and the existence of such a relationship has been admitted in the literature to this date, e.g. in the writings of Pierre Desault[19] (1675-1737), Giambattista Borsieri[20] (1727-1785), and Sir James Clarke[21] (1788-1870). Even a standard textbook[22] of 1951 carries J. Burns Amberson's impression of the lesser resistance to tuberculosis of emotionally unstable persons.

The term *tuberculosis* was created around 1830 by the *Naturhistoriker* Johann Schönlein[23] and his systematizing fervor. The wasting aspect of the disease had received semantic recognition long before the nosological entity was conceived: *phthisis (ptisi, phthoe, pye), consumtio (consumptio, febre consumtiva), ethica (febre ethica), hectica (febre hectica), tabes (febre tabifica, febre tabidis), marcor (febre marcida), marasmus, marasmodes, atrophia, languor, morbus anglicus, etc.*

The genuine as well as the apocryphal writings of Hippocrates contain accounts of mental illness, of which the agitated type is called alternately *mania, delirium,* and *phrenitis.* The latter name is derived from *phrenes* (cognates: frenzy, frantic, phrenetic), which meant originally soul (mind), but also heart (its supposed location) and diaphragm (because of anatomical vicinity). The homonymy was construed as an indication that the site of mental disturbances was in the diaphragmatic region, which included the *hypochondria,* a term that became likewise a synonym for mental illness and was used interchangeably with *hysteria* and *melancholia.* In this last case it was intended to convey a pathogenic interpretation (*atrabila*), though other linguistic implications may be inferred from the synonymy of χολὴ (bile) and ὀργὴ (anger), as well as of μέλαινα (black), ηολλὴ (much), and θηριώδης (furious). Hippocrates[24] refers to a type of mental illness called melancholical paranoia, allegedly caused by the displacement of black bile. More than two millenia later, Johann Friedreich[25] (1796-1862) still discussed in all seriousness the humoral doctrine of insanity, although in 1794 Johann Erhard had defined melancholy in the modern sense.

18 *Praxaeos medicae,* appx., ix, 32, IX; in *Opera medica,* Genevae, Tournes, 1681 (p. 530).

19 *A treatise on the venereal distemper . . . with two dissertations . . . the second on consumptions.* London, Clarke, 1738 (pp. 292, 295). The French original was published in 1733.

20 *Institutionum medicinae practicae,* 9th ed. Lipsiae, Fritsch, 1798, iii, 53 (p. 44). 1st ed. in 1781.

21 *A treatise on pulmonary consumption.* Philadelphia, Carey, Lea & Blanchard, 1835 (p. 180).

22 Cecil & Loeb, *Textbook of medicine,* 8th ed. Philadelphia, Saunders, 1951 (p. 257).

23 *Allgemeine und specielle Pathologie und Therapie,* 2d ed. n.p. [Würzburg], 1832 (iii, 103).

24 *De morb.* i, 30. All Hippocratic quotations have been collated with the monumental Greek-French text of Emile Littré, published in Paris, Baillière, 1839-61.

25 *Historisch-kritische Darstellung der Theorien über das Wesen und den Sitz der psychischen Krankheiten.* Leipzig, Wigand, 1836 (p. 87).

The *Corpus Hippocraticum* contains a paragraph[26] describing phrenitis with hypochondriac symptoms, fever, and delirium: the disease is said to be due to bile changes and will terminate favorably in 7 to 11 days, or else it may turn into a fatal pulmonary illness. In his brilliant interpretation of humoral pathogeny, Galen[27] imagined three types of fevers: *ephemeral* (in the spirits), *ethic* (in the solids), and *putrid* (in the humors); a subgroup of the latter, called *quartan fever,* involved alterations of *atrabila.* Medieval polypragmatism tried to preserve this concept in its original purity and piously submerged it in devout commentaries. Prince Avicenna[28] (980-1036) of the Eastern Caliphate, while discussing the symptomatology of phthisis, referred to quintan, quartan, tertian, and other fevers literally, i.e., recurring every fifth, fourth, or third day. One thousand years after Galen, a Jewish physician of Western Arabic culture, Avenzoar[29] (?-1162), described *'febre ethica ex melancolia.'* This was somewhat of a sacrilege, since solids (*ethica*) and humors (*melancolia*) were not supposed to intertwine. Another heretic, Peter of Abano[30] (1250-1315), renowned for his valiant attempts to reconcile Arabic and Hellenic sources, admitted of *ethica* beginning with *quarta.* Finally, Francesco de Piedimonte[31] (?-1319) specified that melancholic fever may spread to the limbs and turn into consumption, and a similar statement can be found in a text by Nicolaus Florentinus.[32] Such subtleties are typical expressions of scholastic custom, yet they might conceivably originate from bedside observations. One would admit the former after reviewing the sophisticated impression on this subject by Girolamo Cardano[33] (1501-1576) or studying the whimsical entities (for instance the bastard quartan) reported in the tract on fevers, ascribed posthumously to Ambroise Paré. On the other hand, during the Dark Ages, it was often safer to hide behind esoteric labels, particularly in the case of heterodox verities.

26 *Lib. de affect.* 10.

27 *Op. cit.*[8] ii, 12.

28 *Canon medicinae* 3, 10, 4, 22. On p. 272A (Venice, Iuntas, 1555) of Gerard of Cremona's translation. There is no tract on fevers in Avicenna.

29 *Theicrisi,* Rememoratio de febribus i, 3, F 35a in the 1490 (Venice, Gregorius) edition, translated from Hebrew into Latin by Jacobo Hebreo (1280), dedicated to doge Joannes Dandolo, and printed together with Averrhoes' *Colliget.*

30 *Conciliator differentiarum,* diff. 93, f. 130N, Venice, Iuntas, 1526.

31 'Textbook of medicine' by Mesuë, Costa, *et al.,* Venetiis, Iuntas, 1568 (f. 170D, ii, 5).

32 Latin pseudonym of Falcucci, *op. cit.*[13] ii, 5 (f. 122a).

33 *Contradicentium medicorum.* Lugduni, Gryphium, 1548; vi, contrad. 13 (v. 2, 413).

Tetrahumorism offered also the concept that *phymata* (tubercles[34]) in the lungs originate from either phlegm or bile.[35] The idea recurs in the famous commentary[36] to Roger and Roland's surgery, composed by Archimatheus, Ferrarius, Petronsellus, and Platearius, the mysterious Salernitan magisters, who went into group practice in Paris around 1300: they differentiated glands from scrofula and believed that the former were made of phlegm, the latter of melancholia. Five centuries later Karl Kortum[37] (1765-1847) still assumed that mental depression may occasionally cause the appearance of scrofula. The theme receives a slightly different twist with G. B. Cacciapuoti,[38] who discussed in 1950 the "enormous" frequency of right epibronchial adenopathy (of tuberculous origin) in schizoid individuals.

According to Coan doctrine, a most dreadful type of phthisis was due to descent of phlegm from the brain (where it was distilled) to the lungs (where it caused ulcerations).[39] The distillation theory, publicized by the elegant Roman encyclopedist Aulus Cornelius Celsus[40] (1st century) has been the accepted standard well into the 18th century. It was the backbone of the first, and quite bulky, treatise on chest diseases by the Portuguese Pedro Vasco Castello.[41] The concept had been questioned earlier, e.g. by the Byzantine Stephanus Atheniensis[42] (7th century) and by Mesuë's scholiographer Giovanni Costeo[43] (?-1603). It died hard, even after receiving the capital sentence from the erudite Conrad Schneider[44] (1614-1680). In the 15th century Ferrari[45] had placed in his chapter on melancholy a discussion on hemoptoe and its relationship to the accumulation of distilled (phlegmatic) matter in the brain. Three hundred years later, Röbbelen[46] interpreted distillation as a symbolic encephalo-pulmonary link, mentioning that the frequent appearance of phthisis in the insane is just one aspect of such intimate connection. Incidentally, a brain-lung relationship is also implied in recent psychosomatic illustrations.[47]

[34] Trallianus has a chapter title (v, 3), which in the translation of Guintherius Andernacus (1487-1574), reprinted by Haller in Lausanne (Grasset, 1772, v. 1, p. 195), reads *De tuberculo, quod phyma dicitur, in pulmone contracto.* Most authors, including Laënnec, accepted this interpretation, though Littré prefers the generic term tumor.

[35] *De morb.* i, 19.

[36] *Glossulae,* II, i, 5. Daremberg, *Ed.,* Paris, Baillière, 1854 (p. 100). For details on the magisters see Petrequin, F. Poema Medicum. *Gaz. méd. Paris,* 1857, 115-120, 137-142.

[37] *Commentarius de vitio scrofuloso.* v. 1, Lemgoviae, Meyer, 1789, I, iii, 55 (p. 331).

[38] Tubercolosi e malattie mentali. *Cervello,* 1950, *26,* 278-290.

[39] *De intern. affect.* 10.

[40] *De medicina,* iii, 22. See f. 27b in the 1497 (Venice, Fontana) edition (bound together with a Macrobius).

[41] *Exercitationes medicinales ad omnes thoracis affectus.* Tolosae, Charlot, 1616 (*passim*).

[42] In *Medici antici graeci.* Basileae, Petri Pernae, 1581; quaestio xi (p. 97): *Quare humanum caput distillatione, quam Graeci catarrhum vocant.*

[43] In textbook, *op. cit.*[31] f. 95a.

[44] *De catarrhis.* Wittebergae, Mevius & Schumacher, 1660-62, 6 vols. (*passim*).

[45] *Op. cit.*[14] i, 9 (v. 1, f. 66a).

[46] Manie im letzten Stadium der Lungenschwindsucht. *Dtsch. Klin.,* 1863, *15,* 266.

[47] Hurst, A. *et al.* Some psychosomatic aspects of respiratory disease. *Amer. Practit.,* 1950, *1,* 486-492.

acuitas vl' abūdātia ſanguinis. ⁊ ideo diſtillatio
materie vl' curſus ei⁹ ad pulmonē ē cā ptiſis: ſi-
ue diſtillet ſāguis vel colera acuta corroſiua ſiue
flatica ſalſa. vl' mā aduſta pūgēs ⁊ mordicans ⁊
corrodēs. ⁊ ita vlcerās nō vi tñ ſz ſepe veniēdo.
ſicut gutta cauat lapidē non vi ſz ſepe cadendo.
Et duz lapidē gutta ſepe caden⁹ cauat rōe ſtilli
cidij. ⁊ ita iſta ē cā cōis ⁊ frequēter eueniēs. Itē
cauſat ptiſis ꝓpter retētionez mēſtruoz ⁊ emo-
roydaz ꝓp humorē corrupt̄ vl' vaporez aſcen-
dētē ad pulmonē. ⁊ ideo dicit Hip.6ª pti⁹ affo.
affo. in. Emoroydas ſanāti ātiquas ſi ñ vna re-
licta fuerit piculū ē fieri idropē ⁊ ptiſim aut ma
niā. Itez apata oris ⁊ gule ſicut ſquinātia ⁊ ſi-
miliā cū rūpūtur ⁊ materia vadit ad pectus ⁊ ñ
mūdificatur cauſāt ptiſim. Item cauſe ſunt ex-
teriores mlte ſicut caliditas nimia nimis rarifi-
cans ⁊ ſputuz ſanguinis ꝓuocans. ⁊ cibaria acu
ta calida vaporoſa ſicut porri cepe allia piperata.
⁊ cibi aduſti vt aſſata frixa ſalſa ⁊ piſa ⁊ vento-
ſa omia. ⁊ oia ſicca ꝓuocantia tuſſim: quia tuſſis
magna ⁊ longa cauſat ptiſim. ⁊ ptiſicus quilibet
tuſſit. Similiter frigiditas nimia rumpit venas
ꝓſtringēdo. ⁊ caſus ⁊ pcuſſio in pectore vel inſpi
na in loco oppoſito pectori. Similiter aer ven-
toſus ⁊ longa mora in cauernis ⁊ mineris ⁊ iu-
xta fornaces vbi funduntur metalla. ⁊ maxime
operari cuz argento viuo vel ſublimare ipſuz ⁊
arſenicuz ⁊ ſimilia que ſtringunt ⁊ ledūt pectus
⁊ pulmonez. ⁊ ſtudiuz nimiuz in loco frigido ⁊
recipere i pedibus frigus ⁊ cum pedibus frigi-
dis ire dormituz ⁊ cena multa cuz pauco ſomno
et diſcopertura capitis ⁊ ſotularibus fractis in
tēpore frigido ⁊ humido. Coitus ſuper repl'o-

Fig. 1. John of Gaddesden, Canon of St. Paul's Cathedral and court physician to Edward II, wrote the *Rosa Anglica* in 1314. This passage from the first edition (Pavia, 1492) deals with the causes of *ptisi* and discusses the distillation concept (1st line). The fateful conjunction of terms, *ptisim aut maniam* (13th line), is meant as an alternating counterpart to hydrops and hemorrhoids. Many have rejected Gaddesden's writings, for instance Guy de Chauliac ("withered rose"), John Freind ("miserable quack"), and Albrecht von Haller ("promoter of kitchen-lore"); H. P. Cholmeley in 1912 was one of the few who attempted a rehabilitation ("accurate clinical observer"). In fact, the above enumeration of factors leading to consumption includes (25th line) the stay in caverns (miners) or close to metal furnaces (foundry workers), and exposure to chemical fumes (arsenic, mercury), certainly a very early, perhaps the first, mention of occupational hazards in phthisiogenesis.

Janus Damascenus Mesuë, Sr.[48] (777-837), a Christian hospital director in Baghdad, believed that lesser resistance to phthisis is often due to "cerebral debility," meaning the inability to prevent distillation and accumulation of phlegm. In the *Conciliator,* Peter of Abano[49] quotes this passage and then goes on to macerate it in heavy sophistry: in the process, the words *ptisi* and *hypucundria* occur very close to each other. Something similar can be found in the text by John of Gaddesden,[50] the terms being *ptisi* and *mania.* In both instances the reunion was more or less fortuitous. Three centuries later, while the distillation theory was dying, Gideon Harvey[51] (1640?-1700?) introduced the "name" *'hypochondriac consumption'* and thus started a holophrastic chain, perpetuated to the day of this writing.[52]

In the literature, the first case of tuberculosis associated with mental disease was reported by Hippocrates in his third book on epidemics (sect. 2, sixth patient). The fatal illness of the virgin daughter of Euryanax lasted 19 days, which was probably the terminal episode, because she had a perianal fistula and was said to be predisposed to phthisis. She refused to talk, rejected food and water, and hallucinated often, all very suggestive of catatonic symptomatology. In the exquisite 1551 pocket edition, printed by Guillaume Rouille in Leyden, the 1st, 3d, and 6th books on epidemics are encased in profuse Galenic commentaries, but the Pergamenus fails to name the disease in this case, which thirteen centuries later will be labeled phthisis by Foës, in view of the coexistence of a rectal abscess and pulmonary lesions.

In the quest for early case reports one may consider the Roman poet Publius Ovidius Naso (43 B.C.-17 A.D.), exiled for the last ten years of his life to the ancient *Tomis* (Constantza) on the shores of the Black Sea. He is considered the first "historical" victim of tuberculosis in Roumania, perhaps for frequent remarks about loss of appetite and weight, such as

> Ut tetigi Pontum, vexant insomnia, vixque
> Ossa tegit macies, nec juvat ora cibus[53]

or repeated complaints, implying sometimes mental illness, e.g.

> Vix habeo tenuem, quae tegat ossa, cutem.
> Corpore sed mens est aegro magis, aegra, malique.[54]

Considering the change of pace from *Metamorphoses* to *Tristia,* Ovidius was probably a manic-depressive personality. This is not necessarily ruled out by the spurious paranoid ideation expressed in the last *Epistles.* Whether or not he ever became overtly psychotic cannot be determined at this time.

48 *Canones,* Practices ii, 12. *Op. cit.*[31] f. 36D.
49 *Op. cit.*[30] diff. 194 (f. 227D).
50 *Op. cit.*[12] ii, 9 (f. 65a).
51 *Morbus anglicus,* 2d. ed. London, Brook, 1672 (p. 16).
52 The skeleton (and in a certain way the summary) of this paper consists of the various names given throughout the centuries to the association of mental disease and tuberculosis. These 'names' are identified in the text by italics between single quotation marks.
53 Ovidius, *Tristia* iii, 8, 29.
54 *Ibid.* iv, 6, 42.

There is more evidence on record in the case of Charles IX (1550-1574). Tuberculosis was common at that time in the House of Valois, and instances of insanity were also known. He was the second of ten children of Catherine de Medici, who had been relieved of barrenness by Jean Fernel, after ten years of fruitless marriage. Charles became King of France in 1560, with the mother as regent. Early in life he exhibited indecision, invidiousness, villainy, irascibility, and often sadistic cruelty. Four civil wars with religious background took place during his reign. Charles organized, and participated in, the massacre of Protestants during the famous night of St. Bartholomew (August 23/24, 1572). He spared the life of his first surgeon, Ambroise Paré, to whom he later described his hallucinatory experiences, containing scenes of the carnage: ". . . me semblant à tout moment, aussi bien veillant que dormant, que les corps massacrés se présentent à moi, les faces hideuses et couvertes de sang. . . ." A "pulmonary fever" supervened in October 1573, with hemoptyses and loss of weight, though he continued to indulge in frequent, lonely hunting trips. This hobby—Charles left an unfinished tract on cynegetics—involved considerable exercise. He seemed particularly satisfied when the horse collapsed from prolonged and strenuous riding. The king died in May 1574. The autopsy, performed in the presence of 18 physicians by Guillemeau, Paré's amanuensis, revealed a pulmonary tuberculosis with terminal broncho-pleuro-pneumonitis.[55]. His mental condition could be adequately classified as paranoid schizophrenia.

The last of the Greek eclectics, Paul of Aegina[56] (625-690), knew of *'black pleuresy from melancholic humor.'* The quotation might have been discarded as innocent for our purposes, in spite of Avicenna's classification of humoral origins for the pleural fluid, among which the fancy *atrabila* had a respectable place,[57] except that the anatomist André du Laurens[58] (1558-1609) found a "black and foul" pleural fluid in the body of a hypochondriacal melancholic male, who succumbed to a febrile disease. A similar instance had been witnessed by August Thonerus[59] (1567-1655).

Giambattista Silvaticus[60] (?-1631) reported the first case of epilepsy and phthisis. Johann Lotz[61] (1598-1669) described autopsy findings of a melancholic male, aged 30: in the lungs "lobi omnino erant lividi, saniosi & corrupti." Johann Horst[62] (1616-1685) specified phthisis as the cause of death in a melancholic female of 38. Christoph Büttner (1708-1776) discovered scirrhous and cavitary lung disease in a maniac and gave the anatomical description

55 Cabanès, A. *Les morts mystérieuses de l'histoire*, 2d. ed., 1st ser. Paris, Albin Michel, 1911 (pp. 311-365).

56 *Epitome*, iii, 33 (p. 119, Basileae, Cratandrum & Bebelium, 1532).

57 *Op. cit.*[28] 3, 10, 4, 1 (p. 268).

58 *Historia anatomica*, ix, quaest. 12. On p. 710 in the 1605 edition (Lugduni, Cardon). Also in *Tractatus de melancholia*, i, 14 (on p. 23 in *Opera omnia*, Francoforti, Rötelij, 1627).

59 *Consultationem et epistolarum*, Appendix vi, epist. 2, Tübingen, 1653.

60 *Consiliorum et responsorum medicinalium*, i, obs. 51, Genevae, Tournes, 1662 (p. 55).

61 *Consiliorum et observationum medicinalium*, iv, 4, obs. 4, Ulm 1644-58.

62 *Decas observationum et epistolarum anatomicarum*, obs. 8, Francofurti, 1656.

of this case in the thesis of Henricus Ludolph Harmes[63] with profuse commentaries on distillation and phthisis.

The association of mental illness and tuberculosis cannot be recognized in any of the cases autopsied by Giambattista Morgagni[64] (1682-1771): the second insane patient in his series died of "pulmonary inflammation," but on the table only her head was opened. Elsewhere the "father of pathology" recalled how his teacher Valsalva recovered from a chest ailment. Since then, Morgagni avoided phthisis during pathological examinations, in younger years to protect himself and, later, to safeguard his pupils. A large amount of post-mortem material from mental patients, including frequent lung pathology, was obtained by Johann Greding[65] (1718-1755). Thereafter, single case reports fail to deserve special mention.

The medical wisdom, brilliant mind, and sharp wit of Gideon Harvey, instead of preventing, probably contributed to his feud with the organized profession. He took courses in philosophy at Oxford, but received his medical degree during a *petit tour* of France, as he boasts, at seventeen years. He sojourned in Leyden, spent some time with the British Army, then returned to London and went into practice. He was barred from joining the College of Physicians without examination[66] and soon developed a tempestuous approach to hodegetics.[67] He classified practitioners of his time according to their favored panacea: *aquaria* (rain water), *asinaria* (asses' milk), *ferrea* (iron salts), *jesuitica* (cinchona bark), *laniaria* (bleeding), and *stercoraria* (purging). He composed subversive book titles, such as *Art of curing diseases by expectation*, which in the Latin translation acquired the pernicious subtitle *de vanitatibus, dolis & mendacis medicorum*. Nevertheless, his English biographers, including Payne, were probably too severe: there are numberless pearls hidden in his books. Disclosure of any truth beyond contemporary understanding fails to advance human knowledge, and it often provides the discloser with much inconvenience. Fortunately for Gideon Harvey a successful practice and royal friends (Charles II, William III) kept him out of his colleagues' reach. His vernacular polygraphy, sometimes intended for

63 *Diss. in causas morborum et mortis subjecti cujusdam maniaci.* Regiomonte 30 Jun. 1744. Reprinted in *Disputationes ad morborum historiam et curationem facientes.* Quam . . . edidit . . . Albertus Hallerus. V. 1, Lausannae, Bousquet, 1757 (pp. 125-156).

64 *De sedibus et causis morborum,* epist. 8, obs. 2; pp. 47-59 in the first edition, Venetiis, Remondiniana, 1761.

65 *Sämmtliche medicinische Schriften.* C. W. Greding, *Ed.* Greiz, Henning, 1790 (v. I, 277-350, II, 145-162, 327-333).

66 Colwell, G. A. Gideon Harvey. *Ann. med. Hist.,* 1921, 3, 205-237.

67 Harvey, G. *The conclave of physicians . . . detecting their intrigues, frauds and plots, against their patients,* 2d ed. London, Partridge, 1686.

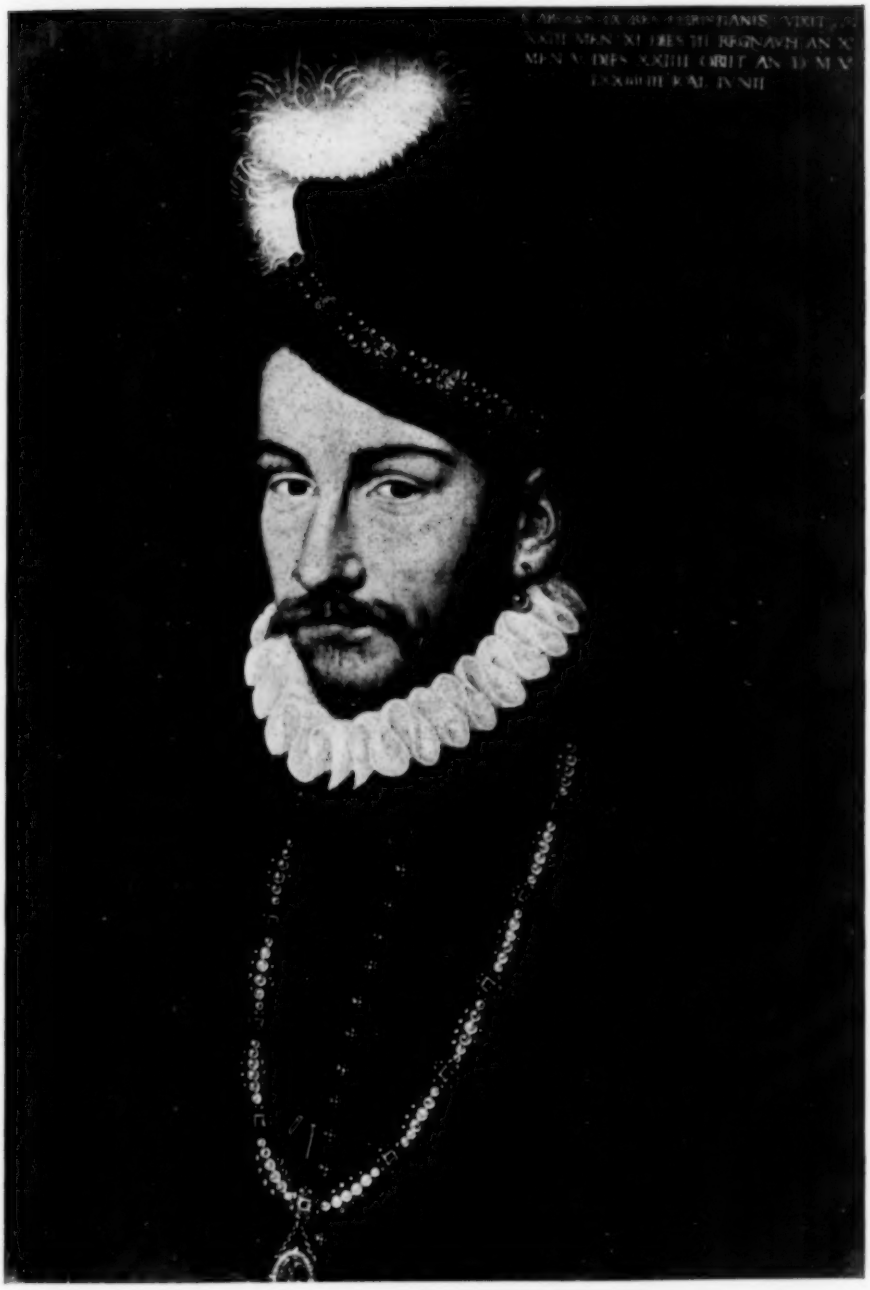

Fig. 2. It is an historical fact that Charles IX (1550-1574), King of France, became mentally ill and died of tuberculosis. This portrait (Louvre) was formerly attributed to François Clouet (1510-1572) for its Flemish style and because he had produced the group picture (Earl of Carlisle collection, Castle Howard) of Catherine de Medici and her children as well as the life-sized painting (Belvedere, Vienna) of the standing, beardless Charles (1569) used in negotiating the marriage to Elizabeth of Austria. The same distinguished traits appear in the bust of Charles, a sculpture (Louvre) by Germain Pilon, and in the miniature in the *livre d'heures* (Bibliothèque Nationale) of Catherine. By contrast, the repulsive effigy on a medallion (Cabinet de France) may have been designed during a psychotic episode. He had two children, a daughter (by his wife) who died in infancy, and a son (by Marie Touchet), Charles, Duke of Angoulême (1573-1650). King Charles, a poet and hunter, left an incomplete opus, *Traité de la chasse royale* (1573), printed in 1625 (2d ed., 1859).

Fig. 3. Gideon Harvey was the first (1666) to give a name (*"hypochondriac consumption"*) to mental illness associated with tuberculosis. This portrait, a young, fiery face, is reproduced from the frontispiece of *Archelogia Philosophica Nova* (1663). Colwell thinks it expresses unbounded conceit and arrogance. Another woodcut appeared in *Little Venus Unmask'd* (1671), written for the laity, priced at one shilling, and containing the announcement of a "secret (i.e., unrevealed) cure for pox and gonorhoe." Moreover, he used evil nicknames: Western Bumkin with forged diploma from Oxford (Sydenham), Butterfly hunter (Sir Thomas Browne), Dog-flayer, Calf's-head dissector, Anatomical killing idol (Lower), Sir Formal Flegmatick (Willis), Tom Tattle the trooper turned physicus (?). Organized medicine never forgave him nor forgot his abusive language. And yet Harvey was a sound practitioner, for instance in the treatment of phthisics he rejected bleeding, theriaca, and asses' milk, and favored rest and fresh air. In his medical testament, *The Vanities of Philosophy and Physick* (1699) he stated: "(Medicine is) very little advanced in the practical part since Hippocrate and Galen; and diseases continue as much unknown, as their cures are unsuccessful, most of them being perform'd merely by expectation."

the captivation of new customers (tracts on venereal diseases), attracted some attention even on the continent.[68] The medical trade met his destructive criticism mostly by avoiding discussions and ignoring his prose.[69] Controversy will publicize any idea; perhaps the best way to kill a truth or a name is by restricting its circulation through a conspiracy of silence.

Richard Morton (1637-1698), originally a theologian, received the medical degree in 1670. His *Phthisiologia* appeared 23 years after Harvey's *Morbus anglicus,* yet, without citing the original, he appropriated the latter's basic idea that consumption may be due to any number of causes, comparably classified in both texts. Morton's book, comprised of features like phlogistic phthisis, reminiscent of his teacher Sylvius, is by far the better written, the presentation is well balanced and it has the attributes of a mature opus. Harvey's tract contains several interesting and many witty passages, but it is only a prolusion and, however promising, an immature work, interspersed with nonsensical statements. The perfecter is just as praiseworthy as the originator, provided credit is granted where credit is due.

Morton[70] named one of his chapters *'De phthisis a melancholica, uti etiam ab hysterica, & hypochondriaca affectione orta.'* He illustrated it by reporting the case of a male (Richards) with behavior trouble early in life, *delirium melancholicum* before the age of forty, and death from pulmonary phthisis, a typical history of tuberculosis in a schizophrenic. The iatrochemist Antonio Fracassini[71] (1709-1777) quoted Morton and described a similar disease under the name of *'affectione hypochondriaca phthisica.'* A systematizing animist, Boissier de Sauvages[72] (1706-1767), attached the eponymous label: *'hypochondriasis phthisica Fracassini.'* A systematizing practitioner, William Cullen[73] (1712-1790), classified *'phthisis hypochondriaca'* among his favorite group, the neuroses. A discussion of this subject by the humanistic dermatologist Anne-Charles Lorry[74] (1726-1783) teems with artistic citations from histrionics (Euripides) and metaphysics (Malebranche), while the

68 Stahl's translation of Harvey's tract on China bark may have been prompted by need of support for personal "animadversions."

69 An anonymous diatribe, entitled *The dialogue between Philiater and Momus,* is attributed to (Philiater) Thomas Guidott (1638-?) of Bath, England.

70 *Phthisiologia.* Londini, Smith, 1689 (pp. 241-250).

71 *Opuscula pathologica alterum de febribus alterum de malo hypochondriaco.* Lipsiae, Weitbrecht, 1778 (pp. 383-396).

72 *Nosologia methodica,* viii, 2, 8; IV, 304 in the Amsterdam edition, Tournes, 1763.

73 *Synopsis nosologiae methodicae,* 5th ed. Edinburgh, Creech, 1792 (II, 160).

74 *De melancholia et morbis melancholicis.* Lutetiae Parisiorum, Cavelier, 1765 (I, 182-188).

"name" is translated into *'tabes melancholica,'* alternately called *'marasmus melancholicus,' 'phthisis melancholica,'* and *'phthisis nervea.'* Lorry is sometimes credited with having first stressed the importance of phthisis in the lunatic, partly because he mentioned none of the above authors, and mainly for his emphasis on the clinical[75] and therapeutic[76] aspect of this pathological symbiosis.

The originator of the somatic theory of insanity, Max Jacobi[77] (1775-1858), was apparently the first to ascribe characteristic symptoms to mental illness associated with tuberculosis. He considered a particularly unpredictable affective lability as pathognomonic in such cases, claiming to have used it as a diagnostic sign for latent phthisis, an opinion shared by Heinrich Neumann[78] (1814-1884). In March 1863 Sir Thomas Clouston (1840-1915) ventured the term of *'phthisical mania'*[79] and after one month of criticisms broadened the coverage to *'phthisical insanity.'*[80] The characteristic mental picture was described as "monomania of suspicion," which is translated into paranoia in a recent publication on the same subject.[81] Auguste Voisin[82] (1829-1898) stressed the "depressive syndrome" as the basic feature of *'folie tuberculeuse'* or *'mélancolie tuberculeuse,'* its reverse being *'tuberculose à type mélancolique,'* due to renal lesions,[83] or appearing in the course of a miliary spread.[84] The relationship between tuberculosis and mental depression has been often acknowledged in the medical literature[85] as well as in poetry.

In the hierarchy of pessimistic philosophers, Giacomo Leopardi (1798-1837) ranks equal to Buddha and Schopenhauer. Physical handicaps limited the romantic adventures of the tuberculous count to unilateral affections (Silvia, Nerina). In 1831 Leopardi left Florence because of Fanny Targioni-Tozzetti (wife of a botanist) and cast up his misadventures in a poem, sarcastically entitled *Aspasia*. The downward trend persisted and two years

75 *Ibid.* I, 381-390.

76 *Ibid.* II, 398-403.

77 *Annalen der Irrenheilanstalt zu Siegburg.* Köln, Dumont & Schauberg, 1837 (pp. 26, 63).

78 *Lehrbuch der Psychiatrie,* Erlangen, Enke, 1859 (p. 162).

79 On the connexion between tuberculosis and insanity. *Edinb. med. J.,* 1863, *8,* 861-867.

80 Tuberculosis and insanity. *J. ment. Sci.,* 1863, *9,* 36-65.

81 Grimaldi, A. Sopra un caso di paranoia d'origine tubercolare. *Rass. Studi psichiat.,* 1940, *29,* 20-36.

82 *Léçons cliniques sur les maladies mentales.* Paris, Baillière, 1883 (pp. 747-762).

83 Dufour and Rabaud, Tuberculose pulmonaire et mélancolie. *Bull. Soc. anat. Paris,* 1899, *74* (1), 312-319.

84 Bienvenu, P. Des états mélancoliques au cours des granulies tuberculeuses. *Ann. méd.-psychol.,* 1902, *1,* 115-121.

85 Odobescu, G. I. and Vasilescu, H. Tuberculoza si turburarile neuro-psichiatrice. *Rev. Stiint. med.,* 1932, *21,* 842-858.

later, half blind and subject to frequent hemoptyses, alternating with asthmatic (?) attacks, the poet wrote a quintessence of gloom, *A sè stesso:*

> . . . nè di sospiri è degna
> La terra. Amaro e noia
> La vita, altro mai nulla; e fango è il mondo.

Another *enfant du siècle,* Alfred de Musset (1810-1857), deplored in *Tristesse* (1840) the depressive state caused by his tuberculosis:

> J'ai perdu ma force et ma vie,
> Et mes amis et ma gaieté:
> J'ai perdu jusqu'à la fierté
> Qui faisait croire à mon génie.

Julia Hajdeu entered life as a precocious child with a high-grade myopia. The final miliary episode of a protracted tuberculosis carried her away at 19 years (1888). She had already written several studies in the humanistic vein and three volumes of melancholic poetry:

> Lasse et pâle, je sens ma jeunesse volage
> S'éloigner à grands pas . . .

After Julia's death, her father Bogdan, a noted Roumanian philologist and historian, became mentally ill and spent the rest of his life trying to reach the daughter through spiritualistic channels, attuned by professional media.

Clouston's "name" was accepted, adapted, permutated, and translated by many authors. In France it became *'manie scrofuleuse,' 'lypémanie tuberculeuse,'*[86] *'folie phthisique,'*[87] in Italy *'mania tisica,'*[88] *'pazzia tisica,'*[89] in South America *'locura tuberculosa,'*[90] in Germany *'chronisches tuberkulöses Irresein,'*[91] while in Great Britain[92] and in the U.S.A.[93] the original term was retained. The concept was also questioned, both bluntly[94] and blandly.[95] Some of the objections have been repudiated in a posthumously published lecture of Clouston's chief, David Skae[96] (1814-1873). Benjamin Ball[97] (1834-1893) made his point discretely by referring to insanity in tuberculous patients. The old-time Yankee John Peaslee Brown[98] (1833-1908), then of Taunton, Massachusetts,

[86] Dupouy, E. Recherches sur les maladies constitutionnelles et diathésiques dans leur rapports avec les névroses et principalement avec la folie. *Ann. méd.-psychol.,* 1866, *2,* 21-48, 201-237.

[87] Roger, G. H. Folie phthisique. *Encéphale,* 1885, *5,* 597-600.

[88] Lombroso, C. Su alcuni casi di mania tisica. *Gazz. med. ital. prov. venete, Padova,* 1867, *10,* 89-91.

[89] Golgi, C. Sull'eziologia delle alienazioni mentali. *Ann. univ. med.,* 1869, reprinted in *Opera omnia,* Milano, Hoepli, 1903 (III, 741-795).

[90] Melendez, L. Locura tuberculosa. *Rev. méd. Rio de J.,* 1877, *14,* 234.

[91] Schüle, H. *Handbuch der Geisteskrankheiten.* Leipzig, Vogel, 1878 (p. 332).

[92] Clark, A. Three cases of phthisical insanity. *J. ment. Sci.,* 1883, *29,* 391-394.

[93] Spitzka, E. C. *Insanity.* New York, Treat, 1893 (p. 375).

[94] Simon, T. Tuberkulose und Geisteskrankheit. *Berl. klin. Wschr.,* 1866, *3,* 41-45, 53-54.

[95] Blandford, G. F. *Insanity and its treatment.* Philadelphia, Lea, 1871 (p. 99).

[96] The Morisonian lectures on insanity. *J. ment. Sci.,* 1874, *20,* 1-20.

[97] Phthisie et folie. *Encéphale,* 1881, *1,* 169-181.

[98] Discussion. *Alien. & Neurol.,* 1886, *7,* 309-311.

stated: "It is doubtful whether there is a phthisical insanity more than a stomach or an hepatic insanity." He did not know that as far back as 1869, the neurohistologist Camillo Golgi[99] (1844-1926) had not only described all those forms, but also rheumatic and a cardiac insanity. The term phthisical insanity disappeared slowly, not so much from opposition[100] as through disuse. In H. M. Bannister's translation of a famous French compendium,[101] it is called *'insanity of tuberculosis,'* though the "name" is deleted in later editions. Forty years ago a paper by an American[102] denied anything peculiar in mental disease being associated with tuberculosis, but after two decades specific features were again described and commented upon in a Czechoslovakian article.[103]

The belief that a supervening somatic ailment (varices, hemorrhoids,[104] dysenteria, dropsy[105]) will improve, or even cure, a pre-existing mental disease is expressed in the genuine writings of Hippocrates. This concept, called metastasis, metaschematization, substitution, replacement, translation, or alternation, has been universally accepted. The few that ever questioned it were severely criticized by authorities such as Friedreich.[106] The antagonism between diseases, for which the term *kolupathism* has been recently proposed,[107] is not an entirely abstruse notion: patients on acute hospital wards of mental institutions are relatively quiet and surprisingly easy to manage.

In the case of tuberculosis, metastasis was construed as an alternation of phases, a clear mind being associated with chest symptoms, which in turn disappear and are replaced by mental disturbances in the event of a psychotic episode. Ancient prognostic lore, preserved in the *Hippocratic Canon,* specifies that disappearance of expectoration in the course of phthisis may result in aberation of the mind with logorrheic delirium.[108] The alternate phase is described in another passage, treating of mania which may turn into hoarseness and cough.[109] Since the *Coan Prenotions* are considered among the earliest fragments of the *Canon,* this is the "first" mention of tuberculosis in the mentally ill (about 530 B.C.).

99 *Op. cit.*[80]

100 Paris, A. Tuberculose et alienation mentale. *Arch. Neurol., Paris,* 1898, *6,* 285-288.

101 Régis, E. *Practical manual of mental medicine.* Philadelphia, Blakiston, 1895 (p. 381).

102 Silk, S. A. The psychical changes observed in pulmonary tuberculosis and its relation to insanity. *Med. Rec., N. Y.,* 1917, *92,* 969-980.

103 Taussig, L. *et al.* Schizofrenie a tuberkulosa. *Rev. neur. psychiat., Praha,* 1933, *6,* 129-152.

104 *Aphor.* vi, 21.

105 *Ibid.* vii, 5.

106 *Skizze einer allgemeinen Diagnostik der psychischen Krankheit.* Würzburg, Strecker, 1829 (p. 84).

107 Marie, J. Le comportement des maladies entre elles. *Pr. méd.,* 1953, *61,* 187-189.

108 *Coan prenotions* ii, 21, 429.

109 *Ibid.* ii, 26, 474.

Anuce Foës[110] (1528-1591), who did for Hippocrates what Janus Cornarius had done for Galen, interpreted suppression of sputum very literally and thought that vapors of the phlegm reach the brain and cause delirium. Many early authors mention the concept with a stereotypical *teste* Hippocrates; very seldom one may find personal comment such as the *'permutation of mania into hemoptysis,'* described in Παρατηρησίων, a chrestomathy of casuistics by Schenck von Grafenberg[111] (1530-1598).

The alternation doctrine was rediscovered in modern times by that wealthy practitioner with the famous goldheaded cane, Richard Mead[112] (1673-1754). He reported in 1751 the case of a phthisic of 28 who had experienced an acute stage of religious mania during which all chest symptoms vanished; after subsidence of the psychotic episode, the *digna puella* languished afresh and was finally carried away by consumption. Since Mead deleted references to previous authors, he is often credited with originating the alternation theory. At the turn of the century analogous case histories appeared in one of the first medical newspapers published in Germany.[113] The eighteenth case observed by Joseph Cox[114] (1762-1822) is more encouraging: a phthisical maiden of 25 turned maniac; her phthisis disappeared; the mania was cured by the "swing," and she lived, permanently free of disease. Alternation with eventual cure (though without the swing) in the case of a "noble virgin" of Vilna, is described by Joseph Frank[115] (1771-1842) in a seldom remembered treasure chest of bibliography. The "father of American psychiatry," Benjamin Rush[116] (1745-1813), stated: "... it is remarkable that [pulmonary consumption] does not so often suspend madness as madness does pulmonary

110 *Magni Hippocrati opera omnia*, commentary to Coac. praenot., aph. 437 (this is aphorism 429 in Littré) on p. 188 in the Frankfurt edition (Aubriorum & Schleichij, 1624); its first printing was in 1595, the most famous in Geneva, 1657.

111 *Observationum medicarum rariorum*. J. G. Schenck, *Ed.* Francofurti, Beyeri, 1665, i. De mania, obs. 2 (p. 141). First printing in 1584-97.

112 *Monita et praecepta medica*, iii. Reprinted in *Opera medica*, Neapoli, Morelli, 1779 (p. 210).

113 Schmidtmann, L. J. Ein hektisches Fieber im letzten Zeitraum durch den Ausspruch des Wahnsinnes geheilt. *Hufelandt's J.*, 1799, 7, 3-15. Kortum, K. G. Beispiele des zur Lungensucht mit Erleichterung der Brustzufälle sich gesellendem Wahnsinns. *Ibid.*, 1800, 10, 36-41.

114 *Practical observations on insanity*, 2d ed. London, Baldwin & Murray, 1806 (pp. 152-154). The "swing" was a revolving contrivance, much like the centrifugal test device for aviators. Its paternity was claimed by Erasmus Darwin (1731-1802) and Cox, though it had been known at least since the time of Avicenna.

115 *Praxeos medicae universae praecepta*, ii, I, 1, p. 775 (see *scholium*), Lipsiae, Kuehne, 1818.

116 *Medical inquiries and observations upon the diseases of the mind*. Philadelphia, Kimber & Richardson, 1812 (p. 256).

consumption." The Belgian Joseph Guislain[117] (1797-1860) reported similar cases, including deflowered termagants and autopsy evidence, while experts from Scotland,[118] France,[119] and Germany[120] attested that the concept was the accepted standard of that time.

Dissenters are always found, viz. the papers published in England,[121] Germany,[122] France,[123] and Italy.[124] Nevertheless, they remained in the minority, and by the turn of the next century, authoritative opinions from the U.S.A.,[125] Russia,[126] Great Britain,[127] and France[128] reiterated the belief in alternation of tuberculosis and mental illness. As we shall see, the concept has recently acquired additional meanings, though in a comment expressed in 1952[129] the "old" alternation itself was assumed to exist.

A modern paraphrase of substitution is Baruk's *balancement psycho-somatique,* implying an equilibrium between, and reciprocal exclusion of, tuberculous localizations in the central nervous system and in other parts of the body. The allergic or toxic (allegedly often reversible encephalo-) meningitis could presumably induce catatonic features similar to the experimental catalepsy, claimed to have been obtained in guinea pigs by injections of either tuberculin or spinal fluid from schizophrenics.[130] In 1932, Baruk (with Bidermann and Albane) emphasized the connections between dementia praecox and allergy and demonstrated schizophrenic features in the prodromal phase of tuberculosis. In 1933 (with Sauvage and Albane) he added that the mental symptoms may metastasize also into a tuberculous coxalgia with polyserositis,

117 *Traité sur l'aliénation mentale.* Amsterdam, Hey & Gartman, 1826 (II, 315-329).

118 Crowther, C. Miscellaneous medical communications. *Edinb. med. surg. J.* 1826, *25,* 43-62.

119 Foville, A. Article on "Aliénation mentale" in *Dictionnaire de médecine et chirurgie pratiques,* Paris, Gabon, Méquignon-Marvis, Baillière, Crochard, 1829 (I, 531).

120 Hufeland, C. W. *Enchiridion medicum.* Berlin, Jonas, 1836 (p. 216).

121 Haslam, J. *Observations on madness and melancholy.* London, Callow, 1809 (p. 159).

122 Hagen, F. W. Lungenschwindsucht und psychische Krankheit. *Allg. Z. Psychiat.,* 1850, *7,* 253-276.

123 Dagonet, H. *Traité élémentaire et pratique des maladies mentales.* Paris, Baillière, 1862 (p. 133).

124 Riva, G. and Seppilli, G. Studi clinici sulle malattie accidentali dei pazzi. *Ann. sper. Freniat.,* 1879, *5,* 180-185.

125 Benner, B. R. The relation of phthisis to insanity. *Alien. & Neurol.,* 1886, *7,* 256-267.

126 Dragomanov, A. P. Psychosis and phthisis. *Arkh. Psikhiat., Kharkov,* 1889, *14,* 138-153.

127 Clouston, T. S. Article on .'Phthisical insanity" in *Dictionary of psychological medicine,* D. H. Tuke, *Ed.,* London, Churchill, 1892 (pp. 937-947).

128 Régis, E. *Précis de psychiatrie,* 5th ed. Paris, Doin, 1914 (pp. 743-749).

129 Bidermann Discussion. *Rev. tuberc., Paris,* 1952, *16,* 396.

130 Baruk, H. *Psychiatrie.* Paris, Masson, 1938 (pp. 202, 292, 865).

though replacement of mental illness by articular localizations had been reported by Clouston as far back as 1864.

According to Pliny, Sr.,[131] who fails to identify his (Grecian?) source, *phthisin cordi* was known to Egyptian embalmers. A distorted version of this item is given in the Pseudoplinius.[132] Galen[133] found an ulcer on the pericardium of a consumptive monkey, and concluded that similar conditions may occur in human beings. The physician and physicist Jean Fernel[134] (1497-1558) admits of tabes from pericardial lesions, while the evangelistic theologian Philip Melanchton[135] (1497-1560) believed that this same disease caused the death of the religiously ambagious Markgraf Kasimir von Brandenburg (1481-1527). Pietro Salio Diverso[136] (16th century) devoted a chapter to this disease, as did Zacutus Lusitanus[137] (1575-1642). Théophile Bonet[138] (1620-1689) returns to the term *phthisi cordis* while reporting several cases in his thesaurus of post-mortems. Tuberculosis in the insane is often a slowly developing condition, asymptomatic for long time, except for a progressive emaciation. The concept of *phthisis cordi* may represent an attempt to ascribe a pathogenetic interpretation to a wasting disease without cough or expectoration.

The most realistic aspect of the old alternation concept, and perhaps its origin, lies in the relative absence of respiratory symptomatology in the tuberculous mental patient,[139] particularly during acute psychotic episodes. The promising clinician Etienne Georget[140] (1795-1828), a victim of the white plague himself, may have been the first to describe the latency of phthisis in the insane as well as its slow evolution. This opinion was shared in France by Felix Voisin[141] (1794-1872), in England by George Burrows[142] (1771-1846) and John Millinger[143] (1782-1862), in Canada by

131 *Historia naturalis*, xix, 5 Fol. 195 *recto* in the beautiful 1472 Venice edition (in Roman type) by Jenson. It is a printer's masterpiece, difficult to duplicate even with modern typographical devices.

132 P. 133 in V. Rose's edition of *Plinius secundus & Martial*, Lipsiae, Teubner, 1875.

133 *De affect. loc.* v, i. V. II, col. 925C in the monumental edition of Janus Cornarius (1500-1558), Vesalius, etc., Lugduni, Frellonium, 1550. 4 vols. This passage was translated by Guillaume Cop (1461-1532), of Basel, physician of Louis XII, to whom he dedicated the first three printings of *De affect. loc.* (Paris, 1513 and 1520, Strassbourg, 1527).

134 *Pathologiae*, v, 12; p. 292 in *Universa medicina*, 5th ed. Francofurti, Wechelii, Marnium & Aubrium, 1592.

135 *Liber de anima.* Witebergae, Seitz, 1556 (fol. 47 *verso*).

136 *De febre pestilenti*, De aff. partic. 7. P. 258 in the 3d ed. Hardevici, Soc. typographica, 1686.

137 *De praxi medica admiranda*, i, obs. 128, Amstelodami, Laurentii, 1634 (p. 119).

138 *Sepulchretum*, i, 9, obs. 26; p. 191 in the princeps edition, Genevae, Chouet, 1679.

139 Knapp, J. L. and Cain, J. R. Management, care, and treatment of mentally ill tuberculosis patients in West Virginia. *Dis. nerv. Syst.*, 1949, 10, 81-83.

140 *De la folie.* Paris, Crevot, 1820 (p. 473).

141 *Des causes morales et physiques des maladies mentales.* Paris, Baillière, 1826 (p. 346).

142 *Commentaries on the causes, forms, symptoms, and treatment, moral and medical, of insanity.* London, Underwood, 1828 (p. 225).

143 *Aphorisms on the treatment and management of the insane.* Philadelphia, Barrington & Haswell, 1842 (p. 47).

Workman,[144] in Germany by Baeumler.[145] A dissenter, Greene,[146] went on record with the statement that judicious use of the stethoscope could reveal most, if not all, of the so-called latent cases. The clinically protracted (torpid) types of tuberculosis in the mentally ill have been studied in the Parisian thesis of the Puerto Rican José Maymi (1936), and recently in Switzerland by René Burnand and G. Schneider,[147] who were impressed by the frequency of subclinical forms and single acute terminal episodes. In time of crisis, such as war, the rate of these fatal issues increases considerably, a fact pointed out for World War I in Germany by Barth (1919) and in England by Elkins and Thomson (1919), and for World War II in France by Lepage *et al.* (1942), and Vie *et al.* (1942). J. F. MacMahon,[148] after describing a local epidemic of acute pneumonic phthisis in wartime, elaborates: "It seems a tenable hypothesis that the vegetative habitus, depressed respiratory function and blunted sensibilities of the majority of tubercular cases under care contribute to the relative quiescence of their lesions and sub-clinical symptomatology."

An intimate connection between phthisis and love has been assumed since early antiquity. It is expressed in *Lover's mark,* an ode ascribed to the chanter of Theos (563-478 B.C.):

> But from all men else a lover
> I can easily discover,
> For upon his easy breast
> Love his brand-mark hath imprest.[149]

According to Hippocratic tradition, wasting of semen from sexual excess may cause exhaustion of the *noton* (spine), called in Greek *φθίσις νωτιάς,* in Latin *phthisis dorsalis.*[150] Susruta[151] admits both the physical implication (*ex coitu tabescens*) and a more ethereal possibility, consumption from *kama* (love). In the latter category belongs the case of Antiochus, son of the Syrian king Seleucus I Nicator (358-280 B.C.). The disease of the heir apparent had all the characteristics of phthisis dorsalis, judging from the narrative of the rhetor and sycophant Valerius Maximus[152] (1st century), who mentions "pectoris vulnus, medulla spinalis affecta, corpus ad ultimam tabem." The mystery (repressed love) was solved by the great Alexandrian

144 On latent phthisis in the insane. *Amer. J. Insanity,* 1862, *19,* 1-10.

145 Ueber einen eigenthümlichen Einfluss von Gehirnkrankheiten auf den Verlauf der Lungenphthise. *Arch. Psychiat. Nervenkr.,* 1880, *11,* 256-260.

146 Notes upon the incidence of tuberculosis in asylums. *J. ment. Sci.,* 1906, *52,* 92-108.

147 Une enquête phthisiologique à l'asile de Céry. *Bull. schweiz. Akad. med. Wiss.,* 1946, *2,* 77-88.

148 Clinical aspects of pulmonary tuberculosis in a community of aments. *Brit. J. Tuberc.,* 1944, *38,* 14-24.

149 *The odes of Anacreon,* T. Stanley, Tr. New York, New Amsterdam Book Co., 1901 (p. 94).

150 *De morb.* ii, 51.

151 *Loc. cit.*[7] (p. 93).

152 *Dictorum et factorum memorabilium,* v, 7; fol. 114 *recto* in the delightful Aldine edition (Venice) of 1502.

Fig. 4. This oil painting (Museum Condé, Chantilly), commissioned by the Duke of Orléans, was created in Rome (1840) by J. A. D. Ingres (1780-1867), and repainted in Paris (1886). Place: Antiochus' bedroom in the Seleucidan palace. Time: 284 B.C. It shows the bearded Erasistratus finding the logical connection between the tachycardia at his fingertips and the sight of forbidden love (the white-clad Stratonicé). The bedside mourner attempts, in old oriental tradition, to avert the disaster by premature lament. The object of everybody's attention, Antiochus (324-262 B.C.) is bedridden with "*psychosomatic consumption.*" Some classicists, e.g. Guy Griffith, have insinuated that Antiochus' subsequent marriage to his stepmother had the same political motivation as previously for his father Seleucus: Stratonicé's family reigned in Macedonia, and kinship was required for a treaty.

anatomist Erasistratus who made the diagnosis from pulse changes appearing every time the patient's stepmother entered the room.[153] This half-Grecian, half-Macedonian beauty, Stratonicé (317 B.C.-?), had already had a daughter by the old king. Nevertheless, the philosophical Seleucus granted his son possession of the "glamour girl," thus confirming the diagnosis *ex juvantibus,* because Sybaritic life promoted complete recovery and later the son reigned (280-262 B.C.) under the name of Antiochus I Soter. The peculiar flavor of this fairy tale has appealed to many authors. Soranus[154] (2d century) ascribes a similar adventure to Hippocrates, who saved Perdiccas' life by acquainting him with Phila, the mistress of his late father, Alexander the Great. Yet, according to reliable sources, Hippocrates (460-370 B.C.) died before Alexander (356-323 B.C.) was born. Phthisis dorsalis, with its intriguing pathogeny from sinning by either excess or default, has been often mentioned.[155] A famous Swiss practitioner, Simon Tissot[156] (1728-1797) considered even the adolescent's substitute a dangerous practice for the chest: *tussi, febricula, tabe . . . ex onanismo.*

Actually, tuberculosis has been a major, and often the terminal, problem for several great lovers in the past century. One of them, a physician who never practised, John Keats (1795-1821) identified his beloved Fanny Brawne with the myth of melancholy, taken from Burton's *Anatomy* (1621), and added masochistic flavor:

> His soul shall taste the sadness of her might,
> And be among her cloudy trophies hung.

This poem (*To melancholy*) was composed in the year before the luetic poet's death from phthisis, perhaps while he "already seemed to feel the flowers growing over him."

Salvatore Collari[157] retraces in delicate colors the romantic setting of Villa Margherita in Rome (between Piazza di Spagna and Trinità dei Monti, facing the Pincio), where Pauline de Beaumont (1768-1803) lived her last months, *consumée d'une maladie de langueur.* The sinning had not been by default. After her death in the arms of Chateaubriand (1768-1848), the poet erected a bas-relief in her memory; it can be seen in the church San Luigi dei Francesi. Also pathetic was the death (during the Parisian carnival) of Marguerite Gautier, *la dame aux camélias* of Alexandre Dumas, even if her last aria in Verdi's *La Traviata* requires more respiratory reserve than expected from a far advanced pulmonary disease. A similar blasphemy could be ventured about Henri Murger's Mimi in Puccini's *La Bohème.* Even the insular Sir Thomas Allbutt[158] believed that after disappointment in love, a young lady may "droop and become languid," a state most easily turned into consumption. Love sin by excess should reactivate latent phthisis, according to a paper published in Russia.[159] The French comment on *Le bacille et l'amour*[160] deserves mention, while a noted German patholo-

153 Plutarch, *Demetrius* 14-15. Diodorus xx, 93. Incidentally, Seleucus never repudiated Apama, his first wife (since 324) and mother of Antiochus.

154 *Life of Hippocrates* from Soranus (xxxv, no pagination) in Clifton, F. *Hippocrates upon air, water and situation.* London, Watts, 1734.

155 Castello, *op. cit.*[41] viii, 2 (p. 694).

156 *Diss. de febribus biliosis . . . accedit tentamen de morbis ex manustupratione.* Lausannae, Bousquet, 1758 (p. 193).

157 *Falene,* 2d ed. Roma, Igea, 1950 (p. 71).

158 Phthisis as a neurosis. *Med. Times & Gaz.,* 1871, *2,* 613-615.

159 Naumann, H. Zur Psyche der Tuberkulösen. *StPetersburg med. Wschr.,* 1901, *26,* 437-439.

160 *Vie méd.,* 1932, *13,* 825-838.

gist elaborated quite recently on the frequency of divorce in the anamnesis of reactivated pulmonary tuberculosis.[161]

The sarcastic metagram *amantes-amentes* is only part of the ancient belief that overdosage and want of love are equally capable of causing mental illness, called *erotomania*. Its subgroup, the "appetitive insanity" of Thomas Arnold[162] (?-1816) admitted of two varieties: satyriasis and nymphomania.[163] The latter was often linked with hysteria (from the Greek word for womb), the wandering uterus[164] of Hippocrates. The relationship between carnal passion and mental disease has been thoroughly analyzed in a thesis[165] sponsored by the *illustrus ignotus* Jo. Go. Stentzel, surgeon and professor of pathology at Wittenberg: the important items discussed include the value of three or more testicles and the fresco in Tiberius' bedroom (Capri palace), representing the 12 positions of the courtesan Cyrene.[166] Jean Esquirol[167] (1772-1840) denied the existence of erotomania in France, claiming that love passion is no longer exalted nor pure enough. Paradoxically, at about the same time German authors investigated the frequency of this syndrome and insisted that *'erotic insanity terminates usually in pulmonary phthisis,'*[168] as proved by autopsy reports.[169] The common occurrence of sexual erethism in the tuberculous psychotic was alleged by Cullère, who remembered (for his nephew's thesis[170]) the case of a wife who had to be salvaged by the police after 24 hours of importunities; the officers accompanied the husband to a mental institution, where he died of phthisis. Naturally, tuberculous toxemia was also incriminated as a cause of impotence.[171] A contribution to the problem of sex, tuberculosis, and psychosis was published quite recently in the Japanese literature.[172]

The first mention of what will be called *'hysterical phthisis'* appeared in a text composed in 1418 by Valescus de Taranta[173]: "inflammation of the uterus transferred to the lung may cause phthisis." The first mention of what will be called *'nervous phthisis'*

161 Huebschmann, H. Psyche und Tuberkulose. *Beitr. klin. Tuberk.*, 1951, *106*, 221-224.

162 *Observations on the nature of insanity*, 2d ed. London, Phillips, 1806 (II, p. 139).

163 On this subject, Gideon Harvey (*op. cit.*[51] p. 44) wrote: "Neither can this or that in women be sentenced vice, because occasioned by a disease, which the apostle himself could term no other than burning (whereby we see he compared it to the greatest pain in the world) and therefore to prevent the growth of so dangerous an accident, he advised all rather to marry than to burn."

164 *De morb. mul.* i, 7.

165 Schiller, I. G. *Morbos corporis morboris mentis non curari, nec curandos esse.* Vitembergae, Eichsfeld, 1736 (passim).

166 He never heard of the 33 positions of Indian love lore in *Kama Sutra*. There is also no mention of Cardinal Bibiena's bathroom with decorations ascribed to Raffaello, but painted by Giulio Romano (1482-1546), the same who illustrated *I modi* (the positions) for Aretino's sonnets. *L'enfer* (Bibl. Nat., Paris) was created at a later date.

167 *Des maladies mentales.* Bruxelles, Méline, Cans & Co., 1838 (I, p. 60).

168 Bergmann, Bemerkungen über die durch getäuschte Liebe erzeugten Seelen störungen. *Allg. Z. Psychiat.*, 1846, *3*, 33-55, 189-241.

169 Leubuscher, R. *Grundzüge zur Pathologie der psychischen Krankheiten.* Berlin, Reimer, 1848 (p. 10-19).

170 Chartier, J. *De la phthisie latente dans ses rapports avec les psychoses.* Paris, Steinheil, 1899 (p. 26).

171 Magri, F. Giacomo Leopardi e la questione psico-antropologica. *Rass. Studi psichiat.*, 1939, *28*, 662-674.

172 Nishioka, J. Psychiatric research on tuberculosis patients. 2. Problems of sexual desire. *Kyushu Shinkei-Seishin Igaku*, 1952, *2*, 328-329.

173 *Philonium* iii, 9. On p. 257, Francofurti, Bassaei, 1599.

was made by Cardanus,[174] who described the cure of a case of phthoe in twenty days because its site was the "intellect." The first mention of what will be called *'fascinous phthisis'* is very old: Susruta knew of consumption caused by demons, the specific evil spirit being identified as Negamesha.[175] West Africans localize the "devouring witch" in cavities produced by pulmonary tuberculosis.[176] The modern transcription of *'phthisis larvata'* stands for inapparent disease, though in Latin *larvatus* means bewitched. *'Tabes à fascino'* was a creature of the renaissance: a posthumous tract of the bigot physician and apothecary Franz Joël[177] (1506-1579) refers to witchcraft as causing illness capable of stimulating any known ailment. In the chapter on *'bewitch'd consumption,'* Harvey[178] relates the case of Mary Waite, who in 1661 was delivered from the evil by prayers; he remarks: "But to return to Mary, wherein I do retard myself somewhat longer, since an intire tract has been published by her brethren [Society of Free-Willing Baptists] to delude the world with their miraculous casting out of a devil; which all that while proved to be no other than a hysterick passion; and if that may be termed a devil; then many a hysterick has a devil more in her than she had before." Actually, numberless so-called witches were basically mental cases.

The remarkable baron Antoine Portal[179] (1742-1832), who managed to remain physician-in-ordinary throughout the reigns of Louis XVI, Marat, Robespierre, Napoleon I, and Charles X, elicited a type of hysterical phthisis caused by "magnetic" frictions (referring to the practice of mesmerism). R. W. Stack[180] connected *'nervous consumption'* with an affection of the mind, while the case called hysterical phthisis by Julien Bonnafox-Demalet[181] (?-1817) was an obvious schizophrenia (delusions, hallucinations, stupor, deterioration). By the end of the 18th century hysteria had become consolidated with the neuroses. As a result the terms hysterical and nervous phthisis were used interchangeably to

174 Dignot. admirand. num. 3. Reprinted in Schenck, *op. cit.*[111] ii, de phthisi, obs. 14 (p. 265).

175 *Op. cit.*[7] Uttaratantra 27 (t. 3, p. 51, 62-80).

176 Gordon, B .L. *The romance of medicine.* Philadelphia, Davis, 1944 (p. 58).

177 *De morbis hyperphysicis & rebus magicis.* Rostochii, Mylvandri, 1580 (thesis 20).

178 *Op. cit.*[81] p. 41.

179 *Observations sur la nature et sur le traitement de la phthisie pulmonaire.* Paris, Du Pont, 1792 (pp. 361-377).

180 *Medical cases with occasional remarks.* Bath & London, Cruttwell & Johnson, 1784 (pp. 56-65).

181 *Traité sur la nature et le traitement de la phthisie pulmonaire.* Paris, Crapart, Caille & Ravier, 1804 (pp. 273-285).

designate the *affectio sine materia* of René Laënnec[182] (1781-1826), a serious-appearing disease though with ultimate (spontaneous) recovery.

A typical case history is that of Teresa Guiccioli of Venice, at 19 years the wife of a man three times older. After her first encounter (1819) with the limping Antinoüs, Lord Byron, the narrative acquires facetious undertones. The poet was attracted by the countess but hesitated to become further involved. Short of despair, she followed the fad of her romantic epoch (blood-tinged handkerchiefs were quite fashionable) and became consumptive. This turned the tide, and their reunion seemed to cure her phthisis. Yet whenever he attempted a separation, the hemoptyses would reappear and convince everybody that she was still in need of active treatment. The end came when Byron went to Greece and was killed in 1824 at Missolonghi during the Hellenic insurrection. Teresa, who married later the marquis of Boissy, was still alive in Paris in 1872.[183]

At 19 years of age, Goethe (1742-1832) had a hemoptysis shortly after the separation from his first love, Kätchen Schönkopf. He recovered, and outlived many of his wives and liaisons.[184]

The bleeder and irritationist François Broussais[185] (1772-1838) denied the nervous origin of hysterical phthisis. Theophilus Thompson[186] (1807-1860), who advanced the treatment of tuberculosis with ozonized oil, believed that hysteria can modify the course of phthisis. The medical philosopher Hermann Pidoux[187] (1808-1882) postulated the antagonism between phthisis and the neuroses (including hysteria). The idiocratic aspects of tuberculosis and hysteria have been minutely analyzed by the Montpellier neurologist Joseph Grasset[188] (1849-1918). The Spaniard Escuder[189] commented on *'tuberculous neurosis'* two years after the advent of radiology. Actually, *'neurotic consumption'* died soon after the discovery of x-rays, though in one case,[190] left apical clouding seen on chest fluoroscopy was interpreted as a positive evidence of hysterical phthisis; respiratory gymnastics and hypnotic "resensibilization" effected a prompt cure, and the young lady rejoined society with immaculate, transparent apices.

182 *De l'auscultation médiate*, ed. princeps. Paris, Brosson & Chaudé, 1819, art. 87 (p. 57).

183 Most recent among the many sources reviewed is the book by the late Maria Borgese, *L'appassionata di Byron*, Milano, Garzanti, 1949.

184 Fränkel, B. Des jungen Goethe schwere Krankheit. Tuberkulose, keine Syphilis. *Z. Tuberk.*, 1910, *15*, 321-336.

185 *Histoire des phlegmasies*, 3d ed. Paris, Gabon & Crochard, 1822 (II, p. 6).

186 *Clinical lectures on pulmonary consumption*. Philadelphia, Lindsay & Blakiston, 1854, lect. 9 (pp. 187-198).

187 *Études générales et pratiques sur la phthisie*, 2d ed. Paris, Asselin, 1874 (p. 307).

188 The relation of hysteria with the scrofulous and the tubercular diathesis. *Brain*, 1884, *6*, 433-460.

189 Neurosis tuberculosas. *Siglo méd.*, 1897, *44*, 53-54.

190 Rénon, L. and Sollier, P. Fausse phthisie de nature hystérique; signes stéthoscopiques et radioscopiques. *Bull. Soc. méd. Hôp. Paris*, 1901, *18*, 1113-1121.

The attention devoted to hysterical phthisis was later focused on its relationship with the sympathetic nervous system. Avenzoar[191] described a chest ailment caused solely by nerve disturbances. Morton[192] considered changes in nerve tonus to be the cause of *'phthisis nervea.'* Whytt[193] mentioned a "sympathetic cough," and gives an extensive account of vegetative tonus determinations in an eight-year-old girl (the tests described will receive various eponyms, others than his own, after being rediscovered 150 years later). In the opinion of Bonnafox-Demalet[194] hysterical phthisis originates from the reaction of either or both animal and organic type of nerves. After such prolegomena, a first study on the intimate connections between tuberculosis and the neuro-vegetative system was published by Carl August Wilhelm Eichmann,[195] and supported by the neuro-histological research of Schroeder van der Kolk[196] and Lewin (1888). In a Roumanian paper by C. Parhon and M. Goldstein (1899), the presence of tuberculosis in 10 out of 28 tabetics (parasyphilitics) is explained by extension of the anesthetic zone to lung tissue, over assumed sympathetic channels.

The Philadelphian Thomas Mays[197] (1846-1918) contributed at length to this topic. There were counterparts in Germany and France.[198] Mays considered the respiratory organs biologically immature and denied the "practical contagiousness" of tuberculosis. In 1903 he defined consumption as the result of unaccustomed environment changes acting upon degenerated, or imperfectly developed, vagi. In 1904 he proposed the vagus reflex as a prognostic sign in pulmonary diseases. In 1948 Francis Pottenger[199] still attributes a conspicuous part of the respiratory symptomatology to inherent neuro-visceral pathology.

191 *Op. cit.*[20] XVI, i, 1 (fol. 21a).

192 *Op. cit.*[70] i, 1 (p. 4).

193 *Observations on the nature, causes, and cure of those disorders which have been commonly called nervous, hypochondriac, or hysteric, to which are prefixed some remarks on the sympathy of the nerves.* Edinburgh, Becket, 1765 (p. 266).

194 *Loc. cit.*[181]

195 Pathologische Veränderungen der sympathischen Nerven in der Tuberculose. *Rhein. Westphal. Med. Corr. Bl.* Nr. 6; quoted in Albes, Pathologie der bösartigen Geschwülste. *Canstadt's Jahrb.*, 1844, 375-470. The original could not be retrieved, despite the intensive search made by Dr. H. W. Knipping's associates in the remnant libraries of the *Rheinland.* Dr. K. Troost of Köln believes that no copy of it has been preserved; he contributed the first names of Eichmann, but found no record of birth date or death year.

196 *Handboek van de pathologie en therapie der krankzinnigheid.* F. A. Hartsen, *Ed.* Utrecht & Amsterdam, Van der Post, 1863 (p. 208).

197 *Pulmonary consumption a nervous disease.* Detroit, Davis, 1891.

198 Schweizer, K. *Schwindsucht eine Nervenkrankheit.* München, Gmelin, 1903. Bonnier, P. La tuberculose, maladie nerveuse. *C. R. Soc. Biol.*, 1911, *71*, 72-75.

199 *Tuberculosis.* St. Louis, Mosby, 1948 (pp. 165-201).

Farther East, in Siberia,[200] Poland,[201] and Ukraina,[202] the asthenic tendency of phthisical patients received particular attention, several authors describing the *'pseudo-neurasthenia tuberculosa.'* At this point the epochal clinical study of Hans Eppinger and Leo Hess will be cited, because it stresses the importance and frequency of vegetative tonus changes in both psychotics and phthisics.[203]

The belief that central nervous system alterations may induce distant somatic lesions has been often expressed. In 1911 P. Bonnier regarded tuberculous caseation as a diaphylactic (defensive) digestion, controlled by the medulla oblongata. In the *Relationspathologie* (1924) of Gustav Ricker, the mechanism of such an interaction is explained on a neuro-hormonal basis, while in the experimental series of the Russian Alexei Speransky (1924), changes in nerve tonus are incriminated. One of Switzerland's most witty clinicians, Maurice Roch, reminiscing in 1948, remarked that authors from war-winning states are more often quoted than their less fortunate rivals. In present-day Germany against a political background two factions struggle over the priority of Ricker *versus* Speransky, while the habitual third group attempts a reconciliation. The New York edition of Speransky's text (1943) quotes two Moscow physicians, V. A. Vorobyev and V. N. Domarev, who used novocaine block of the cervical sympathetic chain in the treatment of pulmonary tuberculosis. In France Jean Chaize *et al.* (1938) had centered their efforts on the stellate ganglion for a similar purpose. As so often happens, earlier attempts are deleted from the reference list; in 1899, T. J. Mays injected silver nitrate over the course of the vagi in an attempt to treat pulmonary consumption.

Delirium as a complication of pulmonary tuberculosis, however rare[204] and peculiar,[205] was mentioned in the Coan Prenotions[206]; and cases were occasionally reported.[207] One of the purest figures in religious history, the delicate mystic who loved flowers, Saint Francis (1182-1226), died tuberculous. In his first biography, composed in 1227 by Brother Leo (?-1271), the saint's emaciation[208] and hemoptyses[209] are noted, while another passage has been interpreted as describing delirium.[210] Tuberculin injections may cause

200 Kunyayeva, A. Tuberculosis and neuropathology. *Sib. Vrach, Irkutsk,* 1908, *1,* 369-371, 375-377, 387.

201 Janowski, W. (de Varsovie). La forme pseudo-neurasthénique de la tuberculose pulmonaire. *Paris méd.,* 1927, *65,* 153-160.

202 Eichenwald, L. J. Tuberculosis and psyche. *Odessaer med. Zh.,* 1929, *4,* 73-77.

203 *Die Vagotonie.* Berlin, Hirschwald, 1910 (p. 80, 85).

204 Kraepelin, E. *Psychiatrie,* 8th ed. Leipzig, Barth, 1910 (II, 1, p. 249).

205 Riebold, G. Ueber eigentümliche Delirien bei Phthisikern. *Münch. med. Wschr.,* 1904, *51,* 511-516.

206 ii, 21 (429).

207 Perfect, W. *Annals of insanity,* 5th ed. London, author, 1800 (p. 170). Adelmann, E. Ueber die Verbindungen der Lungenschwindsucht mit Geisteskrankheiten. *Med. Z. Russlands, St. Petersburg,* 1846, *3,* 73-77.

208 *Speculum perfectionis seu S. Francisci Assisiensis legenda antiquissima.* P. Sabatier, Ed. Paris, Fischbacher, 1898; iii, 34 (p. 65).

209 *Ibid.* vi, 87 (p. 173).

210 *Ibid.* iv, 42 (p. 74).

febrile confusional states,[211] and this was construed as proof of a specific origin of at least some mental diseases. The main contribution in this respect came from the Russian neurologist Sergei Korsakov[212] (1854-1900) who described in 1887 a psychosis associated with polyneuritis (it bears today his eponym), named by him *cerebropathia psychica toxaemica.* He listed several etiological possibilities, including tuberculosis, typhoid fever, abortion, and alcoholism. Later, it was found that the ethanolic origin is by far the most frequent, though not the only one.[213] Quite recently L. Singer[214] included the *'tuberculous psychosis'* with delirium tremens among the confusional psychoses.

The accomplished clinician Carl Wunderlich (1815-1877) recognized psychotic episodes caused by tubercles of the brain, and similar instances have been reported by other authors.[215] Cerebral localizations, especially tuberculomas, are probably not uncommon during phases of secondary (miliary ?) tuberculous spread,[216] and neurologically asymptomatic cases are perhaps more often present than is generally suspected.

The meningeal localization of tuberculosis is often associated with mental disturbances. The Scotch animist Robert Whytt[217] (1714-1766) is usually credited with the description of tuberculous meningitis, formerly named *morbus cerebralis Whyttii,* particularly when hydrocephalus was the main feature. As a matter of fact, one century earlier the English iatrochemist Thomas Willis[218] (1621-1675) had reported the case of an Oxford student with delirium and *lethal cephalalgia* of two weeks' duration; the autopsy revealed tubercles on the meninges. Several cases were seen by the founder of neuropathology John Abercrombie[219] (1780-1844), as well as by the pediatric surgeon Paul Guersant (1800-1869), who published them in the papers of his internes Rufz[220] and William Gerhard[221] (1809-1872), the

211 Jolly. Discussion. *Berl. klin. Wschr.,* 1891, *28,* 162-163.

212 Ueber eine besondere Form psychischer Störung, combinirt mit multipler Neuritis. *Arch. Psychiat. Nervenkr.,* 1890, *21,* 670-704.

213 Nelken, V. Case of generalized tuberculosis with acute Korsakov's psychosis of undetermined origin. *Neurol. polska,* 1927, *10,* 89-110.

214 Singer, L. Psychopathie confusionnelle aigue mortelle liée à une granulie terminale d'un processus évolutif tuberculeux. *Sem. Hôp. Paris,* 1949, *25,* 3897-3899.

215 Wunderlich, C. *Handbuch der Pathologie und Therapie.* Stuttgart, Ebner & Seubert, 1854 (II, 2, p. 1638). Trebbi, C. Tubercolosi cerebrale in un alienato. *Riv. sper. Freniat.,* 1877, *3,* 465-471. Vigouroux, A. and Hérisson-Laparre, Démence précoce et tubercules du cerveau. *Bull. Soc. anat. Paris,* 1913, *88,* 456-458. Southard, E. E. and Canavan, M. M. Focal lesions of the cortex of the left angular gyrus in two cases of late catatonia. *Amer. J. Insan.,* 1916, *72,* 553-580.

216 Marie, A. Tuberculose et psychose. *Bull. Soc. méd. Paris,* 1930, *2,* 457-461.

217 Observations on the dropsy of the brain. Edinburgh, Balfour, 1768 (pp. 1-48); about twenty cases are reported.

218 *De anima brutorum.* Londini & Oxon, Davis, 1672; pars pathol., de cephalalgia, cap. ii (p. 212), obs. 5.

219 *Pathological and practical researches on diseases of the brain and the spinal cord.* Edinburgh, Waugh & Innes, 1828; case 12 (p. 58), case 56 (p. 141).

220 De quelques affections cérébrales observées dans le service de M. Guersant. *Arch. gén. Méd.,* 1833, *1,* 184-227.

221 Cerebral affections of children. *Amer. J. med. Sci.,* 1834, *13,* 313-359; *14,* 99-111.

latter a native of Philadelphia. However, the causal relationship between premonitory mental symptoms, basilar meningitis, and phthisis was first established by the medical newspaperman Antonin Fabre (1797-1854) and the brilliant (but tuberculous) Grégoire Constant (1803-1837); their *mémoire*[222] on the subject was never published! Peter Hennis Green,[223] chairman of the club of foreign physicians in Paris, acquired some of Constant's manuscripts and had them printed under his own name. A dithyrambic editorial[224] in *The Lancet* gave him full credit, but the lexicographers[225] were on the alert, and the plagiary was never legalized.

Prodromal character changes in tubercular meningitis were acknowledged by Griesinger (1861), Ruehle (1874), Ball (1878), and others.[226] V. N. Belusova[227] uses the pompous name *'basic neuro-psychopathological syndrome of tuberculous meningitis.'* Of particular interest for our purpose are cases with overt psychosis as the main clinical picture, adverted by G. Daremberg,[228] named *'méningite tuberculeuse à forme mélancolique'* by Vigouroux,[229] with the basilar pathology revealed toward the end[230] or only at autopsy.[231] The recently increased life span of meningitis patients under streptomycin therapy has created the academic problem whether the psychic residuals are of specific origin or due to drug toxicity.[232]

Questionable evidence of central nervous system lesions due to tuberculous toxemia[233] and the assumed existence of spontaneously receding specific encephalopathies[234] were used to explain psycho-

222 Monographie de la méningite tuberculeuse (ouvrage manuscrit). Prix Montyon, Académie des Sciences 1835. *C. R. Acad. Sci., Paris,* 1836, *3,* 73. Summary, *ibid.,* 1837, *5,* 281-283.

223 Tubercular meningitis of children with preliminary remarks on hydrocephalus. *Lancet,* 1836, *2,* 263-276.

224 1836, *2,* 285.

225 Guersant, P. L. B. Article on "Méningite" in *Dict. de méd.,* 2d ed. Paris, Bechet Jeune, 1839 (vol. 19, pp. 387-440).

226 Redlich, E. Psychische Störungen bei den verschiedenen Meningitisformen. *Wien. med. Wschr.* 1908, *58,* 2257-2263, 2315-2370. Villacian, J. M. Trastornos mentales como signo premonitorio, a largo plazo, de la meningitis tuberculosa. *Rev. esp. Med.,* 1933, *16,* 377-381.

227 Psychopathology and diagnosis of tuberculous meningitis in adults. *Nevropat. i Psikh.,* 1947, *16,* (nr. 2), 71-73.

228 Sur les débuts cérébraux de la tuberculose chez l'adulte. *Arch. gén. Méd.,* 1883, *11,* 714-725.

229 *Ann. méd.-psychol.,* 1901, *2,* 309-314.

230 Nordenson, N. G. Atypic tuberculous meningitis (miliary tuberculosis) in a schizophrenic. *Hygiea, Stockh.,* 1935, *97,* 623-628.

231 Kirman, B. H. Mental symptoms in tuberculous meningitis. *Brit. J. Tuberc.,* 1943, *37,* 63-68. Marchand, L. and de Ajuriaguerra, J. De la méningite tuberculeuse chez l'adulte; ses formes psychiques. *Progr. méd., Paris,* 1945, *73,* 447-451.

232 Schachter, M. Troubles caractériels consécutifs à une méningite tuberculeuse guérie. *Arch. Neurol.,* 1952, *71,* 100-105.

233 Tedeschi, A. Ricerche sperimentali sulla inoculazione della tubercolosi nei centri nervosi. *Riv. sper. Freniat.,* 1893, *19,* 247-265.

234 Lépine, J. Tuberculose-encéphalite. Psychoses. *6th Internat. Congr. Tuberc. Washington 1908,* Philadelphia, Fell, 1908, vol. 1, pt. 2 (p. 1076).

pathology of acid fast origin, called toxic infectious psychosis.[235] An histologically well-documented paper, featuring both reversible (inflammatory) and degenerative (necrotic) alterations, lists under the generic term of *'acute tuberculous psychoses'*[236] several forms from simple confusion to psychotic states. Non-specific mental disturbances in tuberculosis have been ascribed to exhaustion[237] (Binswanger's *Erschöpfungspsychose*, von Muralt's *Erschöpfungsdelirien*), while in a recent case[238] excessive blood loss was blamed.

Spes phthisica, hopefulness and euesthesia with approaching death from phthisis, has been a favored subject with physicians and novelists. The poet of the "blue flower," Novalis[239] (1772-1801), allegorized it in a poem dedicated to his dying sister:

> . . . Farbe des Todes liegt
> Auf dem hageren Antlitz,
> Nur dein Auge strahlt Heiterkeit.

In the last weeks of a phthisic's life insignificant details were said to receive undue magnification. The dying Saint Francis of Assisi had his admirer Jacoba de Settesoli bring him from Rome (a distance of over one hundred miles) a bakery product, *mostaccioli*.[240] Lorry[241] stated that in *'melancholical phthisis'* the hopefulness is replaced by desperation, and Neumann[242] held a similar opinion. In the aristocratic prose of J. Milner Fothergill[243] (1841-1888), the common *spes* is explained by vasomotor disturbances of the brain. J. B. Ayer[244] recorded a sense of well being in only six of 154 patients at the Channing Home in Boston; he evaded the issue by claiming it must be more frequent on the outside. M. E. Dupré[245] labeled it *'démence euphorique des tuberculeux'* and in a given case attempted an anatomical correlation with a frontal lobe lesion. The belief in a rose-colored phthisical death was recorded even by the known clinician Wilhelm von Neumann.[246] However deceiving for the romantically inclined, tuberculosis does not create geniuses,[247] very rarely predisposes to suicide,[248] and is just as seldom or as often associated with preagonal euphoria as any chronic wasting disease.

235 Séglas and Lhermitte, J. Tuberculose: psychose toxi-infectieuse. *Encéphale*, 1909, *4*, 88-95.

236 Beletskiy, V. K. and Lyubimova, *Sovr. Psikhonevrol.*, 1940, *16* (nr. 2), 61-76.

237 Robbins, F. C. Exhaustive psychosis due to tuberculosis, *New Engl. med. Gaz.*, 1909, *44*, 485-491.

238 Rabino, A. Infezione tubercolare, trauma operatorio, emottisi e psicosi. *Minerva med., Roma*, 1949, *2*, 669-671.

239 Friedrich von Hardenberg died of tuberculosis. His mother and at least two of his siblings were mentally ill.

240 *Documenta antiqua Franciscana*. Fr. L. Lemmens, *Ed.*, p. 1, *Scripta fratis Leonis*. Quaracchi, Bonaventurae, 1901; cap. 18 (p. 35).

241 *Op. cit.*[74] I, 380.

242 *Loc. cit.*[78]

243 The mental aspects of ordinary disease. *J. ment. Sci.*, 1874, *20*, 387-409.

244 Cerebral symptoms connected with phthisis. *Boston med. surg. J.*, 1889, *121*, 128-130.

245 Euphorie délirante des phthisiques. *Rev. neurol.*, 1904, *12*, 920-921.

246 *Klinik der Tuberkulose Erwachsener*, 2d ed. Wien, Springer, 1930 (p. 129).

247 Kiernan, J. G. Tuberculosis and genius. *Amer. J. clin. Med.*, 1921, *28*, 755-764.

248 Cox, A. N. Tuberculosis and suicide. *Brit. J. Tuberc.*, 1931, *25*, 173-174.

Many authors have elaborated on the possibility of a relationship between schizophrenia and tuberculosis. Greding[249] found pulmonary phthisis during autopsy in 86 per cent of maniacs, in 80 per cent of melancholics, in 70 per cent of mental defectives, and in 50 per cent of psychotics with convulsive disorders. Many deteriorated schizophrenics may have been included with the defectives, while seizures are not uncommon in the course of dementia praecox. Esquirol[250] believed that as high as 35 per cent of the lypemaniacs (melancholics as a group included mostly cases that would classify as schizophrenics today) die of phthisis. This axiom was widely accepted in the French literature, e.g. by Dagonet (1862) and Cullère (1876). The Detroit expert in legal psychiatry, James Kiernan[251] (1852-1923), formerly with the New York City asylum on Ward's Island, insisted that catatonia[252] predisposes to phthisis, assuming that both originate from scrofulous diathesis. In Germany, the articles by Hagen (1850) and Snell (1887) had established the opinion that phthisis appears often in the insane who are chronically disturbed—those confined to institutions for lifetime.[253] Karl Osswald[254] analyzed 137 deaths from tuberculosis occurring in an asylum between 1896 and 1901 and found that 67 of these patients had been classified as dementia praecox; he was the first to make the actual statement that this category of psychotics is more often affected with pulmonary phthisis. Autopsy findings of isolated cases were published in the U.S.A. by Dunton, Jr. (1903), and in Italy by Morselli (1903). In France, Claus (1903) connected tuberculosis with the catatonic stupor, Roubinovich and Phulpin[255] listed dementia praecox and mitral stenosis among the manifestations of tuberculous dystrophy, while Maurice Dide[256] was the first to remark that tuberculosis is more often associated with hebephreno-catatonic (primitive) psychosis than with the paranoid (secondary) type.

249 *Op. cit.*[85] I, 284.

250 *Op. cit.*[107] I, 219.

251 Katatonia, a clinical form of insanity. *Amer. J. Insan.*, 1877, *34*, 59-91.

252 Morel used the term *démence précoce* in 1856 to designate a type of *stupidité* appearing early in life. Kahlbaum introduced the concepts of hebephrenia in 1863 and catatonia in 1869. Clouston spoke of adolescent insanity in 1883. Kraepelin defined dementia praecox in 1895. Bleuler proposed the term schizophrenia in 1911.

253 Fränkel. Zur Statistik der Tuberkulose bei Psychosen. *Allg. Z. Psychiat.*, 1891, *47*, 697-698.

254 Die Tuberkulose in den Irrenanstalten. *Ibid.*, 1902, *59*, 437-480.

255 Contribution à l'étiologie du syndrome de la démence précoce. *Ann. méd.-psychol.*, 1905, *1*, 96-102.

256 La démence précoce est un syndrome mental toxi-infectieux subaigu ou chronique. *Rev. neurol.*, 1905, *13*, 381-386.

Theses on this subject were published in Paris by Durocher (1906) and in Bucharest by Dumitrescu (1908). The tuberculotoxic origin of catatonia was discussed in Russia by Kunyayeva[257] and P. F. Malkin,[258] in France by J. Lépine and T. Taty,[259] Hesnard (1911), and Kahn and Gallais (1913). In Germany, a paper by Raecke[260] reported a case of tuberculosis in a catatonic child; this became the primary observation of a series, with many contributions of Italian origin, aimed to prove a specific origin of *dementia praecocissima*[261] (infantile schizophrenia).

Attempts were made to substantiate an acid-fast etiology by histological examination of brain tissue from schizophrenics. In the absence of tubercles the findings were interpreted as atypical tuberculosis,[262] as toxic infectious changes,[263] or as non-specific degeneration.[264]

Antonio Mazza,[265] Rotschild and Sharp (1936), Fattovich (1936), and Chatagnon and Jouannais (1940) denied any etiological relationship, admitting at best that hospitalization early in life exposes the schizophrenic to tubercle bacilli at a very susceptible age. Mario and Aroldo Benvenuti[266] used the old argument that dementia praecox is rarely seen in tuberculosis sanatoria. E. Arnould[267] insisted that prevalence of schizophrenia in a racial group (Jewish) notoriously resistant to tuberculosis militates strongly against pathogenetic connections between the two illnesses. Nevertheless, the findings of H. Löw,[268] confirmed by Lempp (1921), Ostmann (1926), and especially by E. Chiaramonti,[269] who analyzed the results of 3,750 autopsies (1922-1946), are still valid: schizophrenics have a higher tuberculosis death rate than any other category of psychotics, both absolutely and relatively, regardless of age or length of stay (side by side) in the institution. This fact is even better demonstrated if the catatonics are singled out, as in the series collected by a famous Stockholm research team[270] comprising a psychiatrist, a phthisiologist, and a radiologist.

257 *Op. cit.*[200]

258 Relation of dementia praecox symptom complex with tuberculous intoxication. *Perm. med. Zh.*, 1929, 7 (no. 1-2), 85-88.

259 Tuberculose, démence catatonique, meningo-encéphalite. *Encéphale*, 1910, *5*, 430-437.

260 Katatonie im Kindesalter. *Arch. Psychiat. Nervenkr.*, 1909, *45*, 245-279.

261 Carezzano, P. Un caso di dementia praecocissima a generi tubercolare. *Note psichiat., Pesaro*, 1924, *12*, 287-298.

262 Gougerot, H. Tuberculoses histologiquement atypiques ou bacilloses non folliculaires du système nerveux. *Encéphale*, 1908, *3*, 497-511.

263 Gosline, H. I. The role of tuberculosis in dementia praecox. *J. Lab. clin. Med.*, 1919, *4*, 186-214, 397-423.

264 Buscaino, V. M. I dati attuali sull'anatomia patologica del sistema nervoso dei dementi precoci. *Riv. Pat. nerv. ment.*, 1921, *26*, 87-112.

265 Sulla etiologia della demenza precoce. *Ibid.*, 1934, *43*, 127-130.

266 Tubercolosi e demenza precoce. *Lotta c. Tuberc.*, 1937, *8*, 756-762, 1040-1048, 1034-1043.

267 Tuberculose et démence précoce. *Pr. méd.*, 1934, *42*, 48-49.

268 Ueber Tuberkulose in Irrenanstalten. *Allg. Z. Psychiat.*, 1917, *63*, 443-483.

269 Studio sui rapporti fra tubercolosi e malattie mentali. *Cervello*, 1948, 281-296.

270 Alström, C. H., Gentz, C., and Lindblom, K. Ueber die Lungentuberkulose der Geisteskranken, insbesondere der Schizophrenen. *Acta tuberc. scand.*, 1943, suppl. 9.

Many have tried to explain the frequent coexistence of phthisis and insanity. Clouston[271] believed in a lower specific gravity of the gray matter, due to circulatory disturbances; Benner[272] added that improved circulation during a febrile episode will result in mental remission (alternation). A Bedlam fellow, Geo. Savage,[273] said "vital depression seems to prepare a fit site for the lower organisms"; the German Otto Snell, Jr.[274] specified shallow breathing and low metabolism as creating a favorable playground for tubercle bacilli; both statements have been seldom quoted, but often repeated verbatim. The Minnesotan H. A. Tomlinson[275] blamed a hereditary preponderance of imperfectly developed connective tissue, unstable and easily disintegrated. The Chicagoan T. B. Keyes[276] claimed that tuberculosis consumes the fat of the nervous cells, thus endangering cerebral integrity.

Similar courtesies were later extended to schizophrenia. In a Parisian thesis, sponsored by Gilbert Ballet in 1913, Girch Rancman of Warsaw regarded tuberculosis and dementia praecox as consequences of syphilitic heredo-dystrophy. In 1878 Friedrich Beneke[277] was the first to point out that aortic hypoplasia (as part of a status thymico-lymphaticus) predisposes to phthisis; in 1923 Nolan Lewis[278] found a "larvated" status lymphaticus in 85 per cent of hebephreno-catatonics, thus implying a relationship on a constitutional basis. Walter Freeman[279] postulated a deficiency of catalytic iron in the brain, with consequently lowered metabolic and oxidative power, hence underactivity of the reticulo-endothelial system and predisposition to both tuberculosis and splitting of the personality. K. V. Shalabutov[280] admitted the blocking of the reticulo-endothelial system by non-specific infections, which should cause a decreased resistance of the schizophrenic towards tuberculosis. The same system, though called active mesenchyme, is assumed to be hereditarily deficient in the concept of Franz Kallmann (1938). W. Bachmann[281] complicates the issue by including adjuvant factors, such as intellectual strain and psychic trauma. Auguste Albane,[282] sponsored by Claude and Baruk, conceives of the existence of curable meningeal episodes, due either to tuberculous allergy or toxic nervous impregnation or both. Carl Alström[283] emphasized the heavy death toll in the first year of hospitalization, but suggested that schizophrenia prepares the pathway somatically for tuberculosis. To a certain extent this had been expressed by Soutzo and Dumitresco (1910) who considered a successive, though associated, development of the two conditions, and by Giuseppe Bianchi (1935), who regarded tuberculosis as a consequence, not a cause of schizophrenia.

271 *Op. cit.*[80]

272 *Op. cit.*[135]

273 Presidential address. *J. ment. Sci.*, 1886, *32*, 313-331.

274 Die Lungenschwindsucht bei Geisteskranken. *Allg. Z. Psychiat.*, 1887, *44*, 166-179.

275 Insanity and phthisis; their transmutation, concurrence and co-existence. *J. nerv. ment. Dis.*, 1895, *22*, 643-661.

276 The relation of insanity to tuberculosis. *Med.-leg. J., N. Y.*, 1907, *25*, 49-52.

277 Ueber die Lumina der Arterien. *Jb. f. Kinderheilk.*, 1871, *4*, 380-391.

278 *Research in dementia praecox*. New York, National Committee for Mental Hygiene, 1936 (p. 138).

279 Biometrical studies in psychiatry. *Hum. Biol.*, 1932, *4*, 208-238.

280 Etiology of schizophrenia. *Sovr. Psikhonevrol.*, 1937, nr. 3, 91-99.

281 Bestehen Zusammenhänge zwischen Schizophrenie und Tuberkulose? *Schweiz. med. Wschr.*, 1948, *78*, 62-63.

282 *Tuberculose et démence précoce*. Thèse. Paris, LeFrançois, 1934 (p. 67).

283 Schizophrenie und Tuberkulose. *Z. ges. Neurol. Psychiat.*, 1938, *162*, 25-50.

In 1930 German phthisiologists were reading sensational headlines on the B.C.G. catastrophe in Lübeck, nations were slowly recovering from a world-wide financial depression, and in Lille, French alienists were paying mild attention to Privat de Fortuné's discourse on '*démence précoce hérédo-tuberculeuse à forme psychopathique*,' though all of them were unaware that a bacteriological boom was in the making. With potato flour and eggs, a Viennese pathologist, Ernst Löwenstein, had just perfected a new stamping ground for tubercle bacilli, and decided to promote it by filing a claim[284] that the medium could detect a bacillemia in numberless conditions, from rheumatism to schizophrenia, thus proving their long disputed specific origin. Only a few authors[285] confirmed these findings, while H. Claude and F. Coste,[286] after declaring that negative results (including their own) do not necessarily rule out the tuberculous origin of schizophrenia, veered from Koch's bacillus to the controversial ultravirus of Fontès (1910). Actually the first[287] and futile search in this direction had been inspired by Levaditi's publications; subsequently several positive reports appeared on the record.[288] Nevertheless the negative results (for both bacilli and ultravirus) obtained a stronger majority than anything ever achieved in the asthenic League of Nations: Germany,[289] Greece,[290] Czechoslovakia,[291] Portugal,[292] France,[293] Italy,[294] U.S.A.,[295] Mexi-

284 Das Vorkommen der Tuberkelbazillämie bei verschiedenen Krankheiten. *Münch. med. Wschr.*, 1931, *78*, 261-263.

285 d'Hollander, F. and Rouvroy, C. Recherches experimentales sur la démence précoce. *C. R. Soc. Biol.*, 1932, *110*, 570-572. Coste, F. *et al.* Constatations experimentales concernant l'étiologie tuberculeuse de certaines démences précoces. *Bull. Acad. Méd., Paris*, 1933, *109*, 760-764. Ciarla, E. and Torri, G. C. Tentativi di cultura del bacillo tuberculare su terreno di Löwenstein da sangue e liquido cefalorachidiano di schizofrenici e di altri malati mentali. *Boll. Ist. sieroter. Milan.*, 1935, *14*, 1031-1036.

286 Sur les relations de la tuberculose et de la démence précoce. *C. R. Soc. Biol.*, 1934, *116*, 1356-1359.

287 Skottowe, J. S. I. A note on the search for filter-passing organisms in cases of schizophrenia. *J. ment. Sci.*, 1930, *76*, 318-321.

288 Puca, A. Sur la mise en évidence de granules acido-résistants et de bacilles dans les organes de cobayes inoculés avec le liquide céphalorachidien de déments précoces. *C. R. Soc. Biol.*, 1932, *111*, 258-260. Toulouse, E. *et al.* Ultra-virus tuberculeux et démence précoce. *Ann. méd.-psychol.*, 1932, *2*, 474-486. Couderc, L. La démence précoce peut-elle être virus neurotrope de nature tuberculeuse ? *Ibid.*, 1932, *2*, 496-499. Stefan, H. Tuberkulöser Charakter und Tuberkulöse Psychose. Ein Fall einer symptomatischen Psychose, verursacht durch das tuberkulöse Virus. *Arch. Psychiat. Nervenkr.*, 1933, *100*, 352-363.

289 Meyer, F. and Schaede, G. (1931).

290 Ananiades, B. *et al.* (1933).

291 Taussig, L. *et al.* (1933).

292 Barahona Fernandes (1934).

293 Saenz, A. *et al.* (1934).

294 Trabattoni, C. (1934).

295 Kopeloff, L. M. *et al.* (1935).

co,[296] Great Britain,[297] Belgium,[298] Argentina,[299] Netherland,[300] and U.S.S.R.[301] Since then, a revival of the fad was attempted by one of Löwenstein's friends[302] from Vienna, by a public health officer[303] from Alexandria (Egypt), by a psychiatrist[304] from Buenos Aires, and, after reaching this country, by the old master himself[305]; but their papers are withering unnoticed.

In view of the presumed etiological relationship, schizophrenics were often subjected to antituberculous treatment, in the absence of demonstrable specific lesions. Paradoxically, tuberculin therapy in mental diseases was even applied in the beginning on a totally non-specific basis, i.e., only for its pyrogenic properties. Fever therapy for psychotics, intended to substitute for the mental condition (the ancient metastasis) had been suggested by Raggi (1877). Tuberculin, prepared by Koch in 1890, seemed to provide constant temperature elevations and this is why Julius Wagner-Jauregg[306] and his assistant Ernst Boeck[307] used it (alternately with pyocyaneus extracts) to induce pyrexia in the treatment of various psychoses. Within a decade, the indications for fever therapy were restricted to general paralysis. In 1917 the method was replaced by malariotherapy. Today it is almost obsolete. Shortly before World War I, Treiber[308] and later Hans Wiesenack[309] introduced tuberculin in the treatment of schizophrenia. None of those who used it, including Köster (1921), Liebermeister (1921), and Hoffmann (1922), reported more than a hopeful start. Other biological products connected with the tubercle bacillus were employed occasionally in non-tuberculous mental patients, such as lysogen by Carezzano (1924), Ponndorf's cutivaccinotherapy, and Jousset's allergine by Pascal (1933), or the autovaccine prepared in the cases of Menninger-Lerchenthal (1933) from blood cultures obtained by Loewenstein himself. Ciarla[310] declared it possible to individualize tuberculin therapy to the degree of "microscopic surgery," able to "repair," to "destroy," even to "demolish" neurons at will (no comment). And what Hyvert calls *test tuberculinique* in 1942 is actually very close to a short treatment series.

296 Buentello y Villa, E. (1935).
297 Beck, A. *et al.* (1935).
298 Beerens, J. (1936).
299 Martinez Dalke, L. M. (1936).
300 Kraus, G. *et al.* (1936).
301 Frumkin, G. E. and Rakhmanchik, C. I. (1936).
302 Weeber, R. Ueber Blut- und Liquorbazillose. *Wien. med. Wschr.*, 1937, *87*, 285-286.
303 Welajah, M. H. Role played by filterable viruses in the causation of insanity. *J. Egypt. med. Assn.*, 1940, *23*, 178-179.
304 Melgar, R. Tuberculosis y psicosis. *Rev. Asoc. méd. argent.*, 1943, *57*, 1061-1064.
305 Löwenstein, E. Tubercle bacilli in spinal fluid. *J. nerv. ment. Dis.*, 1945, *101*, 576-582.
306 Psychiatrische Heilbestrebungen. *Wien. klin. Wschr.*, 1895, *8*, 155-159.
307 Versuche über die Einwirkung künstlich erzeugten Fiebers bei Psychosen. *Jb. Psychiat. Neurol.*, 1895, *14*, 199-268.
308 Heilversuche mit Tuberkulininjektionen bei Dementia Praecox. *Allg. Z. Psychiat.*, 1913, *70*, 734-742.
309 *Ueber therapeutische Versuche mit Tuberkulinkuren bei Psychosen.* Berlin, Ebering, 1917.
310 L'immunoterapia specifica antitubercolare ed aspecifica nella cura della schizofrenia iniziale e di altre neuropsicopatie tuberculotossiche iniziali. *G. Psichiat. Neuropat.*, 1939, *67*, 137-142.

Although Pliny, Sr.[311] (23-76) lists in detail several ancient remedies based on gold, its cure-all virtues were first stressed by Jabir ibn Haiyan al Tarasusi[312] (702-765), the legendary "father of alchemy." The goal of every hermetic magister was to discover the reddish quintessence and the magic formula required to liquefy the noble metal into a comestible preparation: *aurum potabile*. Under this name, Arnold of Villanova (1235-1312) introduced a spagyric compound which remained for a long time in popular demand, even if malicious rivals called it brandy. Perhaps the omniscient count Pico della Mirandola, Jr.[313] (1469-1533) knew the secret formula; he reported how the surgeon Antonius cured a dying Roman matron from consumption by giving her potable gold. In the centuries that followed the chrysotherapy of tuberculosis has been several times (re) discovered. In 1924 a brand suggested by Møllgaard (*sanocrysine*) was soluble enough to deserve the name of *aurum injectabile* and to enjoy a popularity of almost twenty years. C. Pascal and P. Doussinet[314] employed it in the treatment of tuberculous schizophrenics but elicited no effect on the psychosis. The drug was also given to non-tuberculous schizophrenics, often with sulphur oil as a pyretogen,[315] occasionally with endocrine adjuncts.[316] The aurotherapy of mental conditions was still in use as recently as 1943 in Brazil.[317]

Coexistence of phthisis and insanity on the genealogical tree, noticed in the houses of Austria, Romanov, and Valois, was specifically mentioned by Jacobus Schroeder van der Kolk[318] (1797-1862) and acknowledged by Dupouy (1866), Alouisson (1866), and Brehmer (1885). Ales Hrdlicka[319] and Arturo Morselli[320] tabulated data from their own material; F. Jessen[321] quoted from the literature; and V. K. Koroshko[322] cited results from V. I. Jakovenco's study on 1865 case-families. Wolfer (1920) transposed the arguments for the narrower field of dementia praecox. Hans Luxenburger[323] created support for the concept by statistical analysis

311 *Hist. nat.*, xxxiii, 4 (II, 438 in Antoine du Pinet's French translation, printed in Paris, 1615, by Laurent Sonnius).

312 *Chimia, cum correctione et medulla.* G. Horn, *Ed.*, Lugduni Batavorum, Doude, 1668; I, iii, 32 (p. 53).

313 *De auro* I, 4; p. 13 of 1586 (Venice, Somaschus) edition; v. 2, p. 318 in *Teatrum chimicum*, Argentorati, Zetzner, 1659.

314 Hébéphrénie et tuberculose. *Arch. Neurol., Paris*, 1932, *51*, 535-560.

315 Claude, H. *et al.* Essai de pyrétotherapie soufrée et chrysothérapie associées dans le traitement de certaines démences précoces. *Gaz. Hôp., Paris*, 1933, *106*, 1829-1832.

316 Brunerie, A. and Coche, R. Essai de traitement d'états mentaux dits "démence précoce" par l'association de la chrysothérapie et de l'opothérapie à la pyrétothérapie soufrée. *J. Méd. Lyon*, 1936, *17*, 445-450.

317 dos Reis, M. M. A tuberculose na etiologia das doenças mentais. *Arch. Serv. nac. Doenç. ment., Rio de J.*, 1943, *1*, 325-331.

318 Over den oorsprong en de vorming van tubercula pulmonum. *Ned. Lancet*, 1852, *8*, 1-45.

319 Contributions to general etiology and pathology of the insane. *Amer. J. Insan.*, 1896, *52*, 325-343.

320 *La tubercolosi nella etiologia e patogenesi delle malattie nervose e mentali.* Tesi. Genova, Carlini, 1903 (p. 10).

321 *Lungenschwindsucht und Nervensystem.* Jena, Fischer, 1905 (p. 13).

322 Relationship between tuberculosis, neuroses and psychoses. *Russk. Vrach.*, 1907, *6*, 1527-1530.

323 Tuberkulose als Todesursache in den Geschwisterschaften Schizophrener, Manisch-Depressiver und der Durchschnittsbevölkerung. *Z. ges. Neurol. Psychiat.*, 1927, *109*, 313-340.

of genetic material; his conclusions were confirmed in Germany by Konstantinu (1930) and B. Schulz (1933), in France by H. Claude *et al.* (1934), in the U.S.A. by F. Kallmann (1938), and in South Africa by Lewis Hurst.[324] Bleuler and Rappaport (1935), and recently Bleuler and Zurgilgen,[325] admitted the frequency of tuberculosis in siblings of schizophrenics but denied that schizophrenia is more often seen in relatives of tuberculous patients than in the general population. This was then construed as a proof that constitutional factors play a lesser rôle than the modality and amount of infection.

Humoralism is primarily a constitutional approach. The two basic types have been distinguished by Hellenic and Latin authors: the stout (*habitus apoplecticus*) and the lank (*habitus phthisicus*). The latter, called *status phthisicus* when connected with terminal stages of consumption, was described professionally by Aretaeus[326] and poetically (*Melancholie an Laura*) by the son of a physician, and physician himself, the tuberculous Johann Schiller (1759-1805):

Nur der Tod ist's dem dein schmachtend Auge winkt . . .

Avicenna[327] discussed the relationship between the physical aspect and predisposition to insanity. In 1765 Lorry[328] advanced the notion that the weak and delicate constitution, common to both diseases, accounts for the frequent association of phthisis and melancholy. In 1845 McKinnon asserted that scrofulous and insane constitutions are alike. Similar statements were made by Paul Moreau,[329] Th. Buri,[330] and Crocq, Jr.[331] (of Brussels), while Theophrastus Powell[332] attempted to combine the results of emancipation in the Negro with a dynamic approach to genetics: "This race has developed a highly insane, consumptive, syphilitic and alcoholic constitution, which predisposes them to disease which formerly they were free from." Lawrence Irwell[333] requested the degenerated types of humanity (i.e. tuberculous psychotics) to refrain from

324 Hereditary factors in mental disorder and mental defect. *S. Afr. med. J.*, 1944, *18*, 397-401.

325 Tuberkulose und Schizophrenie. *Wien. med. Wschr.*, 1949, *99*, 357-358.

326 In *Medici antiqui graeci, op. cit.*[42] p. 41 (pagination error).

327 *Canon*, 3, 1, 4, 18; on p. 489 in the 1595 Iuntas edition, with marginalia by Costaeus and Mongius.

328 *Op. cit.*[70] II, 5.

329 Des rapports de la phthisie pulmonaire avec l'aliénation mentale. *Abeille méd.*, 1877, *34*, 33-34, 49-51.

330 *Ueber das Verhältniss der Tuberculose zu den Geisteskrankheiten*. Thesis. Basel, Schulze, 1886 (p. 140).

331 La folie diathésique. *Gaz. hebd. Méd. Chir.*, 1894, *31*, 304-306, cont.

332 The increase of insanity and tuberculosis in the Southern Negro since 1860, and its alliance, and some of the supposed causes. *J. Amer. med. Ass.*, 1896, *27*, 1185-1188.

333 Racial deterioration; the relation between phthisis and insanity. *Sanitarian, N. Y.*, 1897, *38*, 321-347.

reproducing the species; the voluntary (or imposed) abstinence was considered as a proper compensation for the "prolongation of their life by scientific modification of the cosmic process."

The "bacillar constitution" of Louis Landouzy (1845-1917), the "first group" of Achille de Giovanni (1837-1916), the "habitus asthenicus" of Berthold Stiller (1837-1922), or the "leptosome type" of Ernst Kretschmer, Sr. (1921), are essentially identical with Hippocrates' "habitus phthisicus" or Lorry's "delicate constitution." A Spanish paper[334] considers this physical aspect to be the result of tuberculous heritage (*heredodistroficos fimicos*). A bond between schizophrenia and tuberculosis based on the common constitutional type was often stressed in the German literature, e.g. Westphal and Welti (1930), Jaensch (1935), Sedlaczek (1936), and Melzer (1936). In Switzerland, Hurschler and Perrier (1946) admit only a tiny correlation. A favored genetic investigation, case reports of uni-ovular twins,[335] failed to submit decisive evidence.

In England C. Burt[336] gave perspective to anthropological measurements by adding the third category, that of personality dimensions. On the basis of available data, H. J. Eysenk[337] found that the main difference between introvert and extrovert lies in the "flat chest" (first and second dimensions); the main difference between schizophrenic and maniac depressive lies in the "thin chest" (third dimension) of the schizophrenic; he concludes: ". . . this would agree with the known affinity between schizophrenia and tuberculosis." The transparent chest is evidently just another term for the well-known phthisical habitus.

Throughout the discussion, reference to psychological disturbances has been avoided (within reason), perhaps because in this respect, as Lawrason Brown[338] puts it, "contradiction contradicts contradiction, and the tuberculous patient is described as anything between an insane criminal and a saint too ethereal for this mundane sphere." The existence of a *'tuberculous character,'* assimilated by L. von Muralt[339] with the *'tuberculous neurasthenia,'* is

334 Vallejo Nagera, A. and Valdes Lambea, J. Relaciones entre la esquizofrenia y la tuberculosis. *Med. ibera*, 1929, *24*, 269-271.

335 Reed, G. E. Uniovular twins; schizophrenia and tuberculosis. *Canad. med. Ass. J.*, 1935, *32*, 180-182. Koester, E. D. Ueber das Zusammentreffen von Lungentuberkulose und Schizophrenie bei einem eineiigen Zwillingspaar. *TuberkArzt*, 1950, *4*, 42-44.

336 The factorial study of physical types, *Man, Lond.*, 1944, *72*, 82-86.

337 *Dimensions of personality*. London, Kegan Paul, 1947 (p. 92).

338 The mental aspect in the etiology and treatment of pulmonary tuberculosis. *Int. Clin.*, 1933, *43* ser. (pt. 3), 149-174.

339 Die nervösen und psychischen Störungen der Lungentuberkulösen. *KorrespBl. schweiz. Arz.*, 1913, *43*, 979-983.

mentioned by many authors, such as A. Brandenburg[340] and Luis de Castro Garcia.[341] Books have been published on this subject, in Kiev by D. Ia. Epstein (1929), in Tokyo by T. Miura (1951). G. A. S. Saxe[342] discussed the *'tuberculous criminal,'* while Voivenel,[343] in recalling Sarajevo, mentioned the *'tuberculous anarchist.'* One might add the *'tuberculous insurgent'*—Simon Bolivar (1783-1830)—perhaps even the *'tuberculous dictator,'* in all these cases the condition being conceived as resulting from a specific toxemia.

Restlessness (a synonym of restless is hectic) constitutes one of the basic features of the tuberculous character. A typical example was Robert Louis Stevenson (1850-1894) who moved from one place to another until death caught up with him on the island of Samoa. Circumstantial evidence is of restricted value, though it may be of interest to know that the poet composed most of that perfect description of an auditory hallucination (*Ticonderoga*) during his hospitalization in Trudeau's tuberculosis sanatorium at Saranac (1888):

> It shall sing in your sleeping ears,
> It shall hum in your waking head
> The name—Ticonderoga,
> And the warning of the dead.

Cyclothymic swings are also described as part of the tuberculous character, even if depression is generally considered as being its basic pattern, such as expressed in the *Reliquiae* of the unhappy Guy Jarnouen de Villartay (1881-1909):

> Je maudis malgré moi le destin que j'envie
> Je suis celui qui meurt de n'avoir pas vécu.

Following the initial communication of Bondi (1899) and the article by Bernheim (1899), Stefano Mircoli[344] suggested that existence of a toxemia capable of inducing mental disturbances warrants the allowance of a decreased legal responsibility for tuberculous patients. G.A.S. Saxe[345] maintained a similar position. Related case histories, with forensic interpretations, have been reported in the South American literature—Delpiano and Novaro (1939), Lopez Bancalari and Delpiano (1942)—while a recent paper by O. Loudet[346] reiterated the original thesis, postulating a transient loss of (mental) consciousness under the influence of tuberculous toxins.

A relationship between general paralysis of the insane and tuberculosis has also been asserted. In his classical description

340 Tuberkulose und Psychosen. *Allg. Z. Psychiat.*, 1927, *86*, 79-90.

341 Psicopatologia y tuberculosis. *Rev. espan. Tuberc.*, 1943, *12*, 629-631.

342 The psychical relations of tuberculosis in fact and fiction. *N. Y. med. J.*, 1903, *78*, 211-215, 263-266.

343 *Op. cit.*[100]

344 Sulla responsibilità dei tubercolosi. *Gazz. Osp. Clin.*, 1900, *21*, 700-701.

345 *Op. cit.*[342]

346 Tuberculosis, alienacion mental y delito. *Rev. Psiquiat. Crim., B. Aires*, 1947, *12*, 345-360.

Louis Calmeil[347] (1798-1895) emphasized the latency of phthisis in the general paretic, an opinion confirmed by Workman (1862), Clouston (1863), etc. In later publications tuberculosis was found in 25 per cent of the autopsies collected by J. Crichton-Browne[348] and Wm. J. Mickle (1886). Klippel[349] (of Paris) proposed in 1891 the term *'paralysie générale tuberculeuse'* with obvious etiological implications, and discussed the problem thoroughly in Louis Bour's thesis (1903). Anglade[350] (of Bordeaux) admitted either syphilis or tuberculosis or both as causal agents, while Tatusescu (of Bucharest) christened a similar ailment with the eponym of *'encefalita degenerativa tuberculoasa tip Klippel'* (1907). In fact, the statistical analysis proved that the association of the two conditions was rare enough to suggest immunity[351] or perhaps a constitutional resistance[352] of the general paretic against tuberculosis.

Phthisis was always a common occurrence among mental defectives: around 1900, it was reported as the cause of death in one-half[353] to one-third[354] of autopsies. Jacques Moreau (1804-1884) believed even epilepsy was derived from tuberculosis. Based on this, Anglade lectured at the International Tuberculosis Congress in Paris (1905) on *'cérébro-sclérose d'origine tuberculeuse';* he meant the transformation of an epileptic into an idiot through progressive cerebral sclerosis.[355] Paul Moreau (1877) classified mental deficiency among the *'paratuberculous dystrophies,'* and such opinion was endorsed by Brehmer (1885), Jessen (1905), Morselli (1907), and Barr.[356]

After World War I, the association of psychosis and tuberculosis continued to receive designations. Leo Wolfer[357] refers to *'dementia praecox'* as *'metatuberculosis,'* and explains it, rather

347 *De la paralysie considérée chez les aliénés.* Paris, Baillière, 1826. Autoptic evidence of tuberculosis was found in the following cases: 20 (p. 91), 25 (p. 120), 26 (p. 126), 35 (p. 170), questionable in 38 (p. 190), obvious in 47 (p. 242), 53 (p. 278), 57 (p. 302), 60 (p. 321) and C (p. 438).

348 The pulmonary pathology of general paresis. *Brain,* 1883, *6,* 317-341.

349 Syndrome paralytique par encéphalite tuberculeuse. *Rev. neurol.,* 1905, *13,* 377-380.

350 Paralysie générale et tuberculose, *Gaz. hebd. Sci. méd.,* 1904, *25,* 487-490.

351 Rosanoff, A. J. Immunity against tuberculosis in general paresis. *J. Amer. med. Ass.,* 1909, *52,* 530-531.

352 Snesarev, P. E. Incidence of cerebral arteriosclerosis and tuberculosis in mental diseases. *Soviets. Nevropat.,* 1932, *1,* 103-112.

353 Wulff. Bemerkungen über das Vorkommen von Tuberkulose in den Idiothenanstalten. *Allg. Z. Psychiat.,* 1893, *49,* 529-539.

354 Henninger, C. H. Imbecility and tuberculosis. *J. Psycho-Asth.,* 1903, *8,* 68-75.

355 Anglade and Jacquin, Hérédo-tuberculose et idioties congénitales. *Encéphale,* 1907, *1,* 136-157.

356 Barr, M. W. The relation between tuberculosis and mental defect. *6th Internat. Congr. Tuberc. Washington 1908.* Philadelphia, Fell, 1908 (III, p. 88).

357 Die Tuberkulogenese der Dementia praecox. *Z. ges. Neurol. Psychiat.,* 1919, *52,* 49-53.

apologetically, as a toxic action over endocrine channels. For certain cases, Laignel-Lavastine[358] reserves a diagnostic triptych: *'démence précoce'* (syndrome) —*'encéphalopathie atrophique neuro-épitheliale'* (pathology) —*'tuberculose'* (etiology). After the reminder "varium et mutabile semper tuberculosis," Hermann Hoffmann[359] proposes the designation *'paraphrenia phymatosògenes,'* comprising four groups: depressive (melancholia), expansive (mania), hallucinatory (amentia), and stuporous (dementia praecox). Likewise, Ernesto Ciarla[360] considers the *'psicosi protobacillari da tossi-infezione tubercolare'* a truly polyvalent etiological background, which may develop into 'schizophrenia, hebephrenia, catatonia, paranoidism, paranoia, hallucinosis, dementia, mania and melancholia, euphorism, epilepsy, etc." Gustav Liebermeister[361] reluctantly admits that there is no definite evidence of genuine tuberculous psychosis, but believes at least in *'posttuberkulöse Psychosen.'* Otto Magenau[362] regards tuberculosis as a "pathoplastic" component of schizophrenia. And metaphrasing Dide, Arturo Ameghino[363] speaks of *'demencia toxica primitiva directamente ligada a la tuberculosis.'*

During the 19th century with its growing fondness for morbid anatomy, post-mortems were often performed in asylums. The compiled reports revealed how frequently tuberculosis occurs in the bodies of the insane: it was present in 22 cases out of 135 autopsies,[364] in 62 out of 176,[365] in 46 out of 215,[366] in 36 out of 96,[367] and in 44 out of 147.[368] Friedrich Hagen[369] (1814-1888) calculated an average of 25% and this figure will be accepted as a standard for the following half-century. Cumulative tables have been collected for Europe by Wilhelm Griesinger[370] (1817-1868), and for America by the physician and businessman Joseph Workman[371] (1805-1894).

358 Démence précoce et tuberculose. *J. Méd. Paris,* 1920, *39,* 215-216.

359 Die Tuberkulose als Ursache geistiger Erkrankungen. *Allg. Z. Psychiat.,* 1922, *66,* 699-708. *Phymatosògenes* is no paroxytone, the accent falls on the 2d o.

360 Nuovi studi sulla natura delle malattie mentali finora ritenute criptogenetiche, ed in particolare dimostrazione dell'esistenza di psicosi bacillari. *Riv. sper. Freniat.,* 1923, *47,* 121-126.

361 Tuberkulose und Psychosen. *Arch. Psychiat. Nervenkr.,* 1924, *70,* 58-64.

362 Die Tuberkulose und die Gruppe der Schizophrenien. *Z. ges. Neurol. Psychiat.,* 1925, *96,* 704-729.

363 Tuberculosis y demencia primitiva. *Sem. méd., B. Aires,* 1926, *33,* 1390-1396.

364 Pinel, Scipion, *Recherches sur quelques points de l'aliénation mentale.* Thèse #295. Paris, 1809.

365 Esquirol, *op. cit.*[107] I, 219.

366 Franque, J. B. von. Psychische Krankheiten und Lungenschwindsucht. *Med. Jahrb. Herzogth. Nassau, Wiesbaden,* 1845, 3. Heft, 163-206.

367 Hitchman, J. The pathological appearances observed in the bodies of the insane. *Lancet,* 1847, *2,* 564-569.

368 Boyd, R. Vital statistics and observations on the causes of death amongst the male patients in the County of Somerset Pauper Lunatic Asylum. *J. ment. Sci.,* 1861, *7,* 398-407.

369 *Op. cit.*[122]

370 *Die Pathologie und Therapie der psychischen Krankheiten,* 2d ed. Stuttgart, Krabbe, 1861, (p. 452).

371 On latent phthisis in the insane. *Amer. J. Insan.,* 1862, *19,* 1-10.

In 1901, T. Drapes[372] denied any special frequency of tuberculosis in the insane other than that due to overcrowding and poor hygiene in asylums. Long before, the Roman neurologist and heir to Hellenic methodism Caelius Aurelianus[373] (5th century) had advocated a humane and rational care of mental patients, aimed at preventing physical complications. The craniologist Samuel Morton[374] (1799-1851) mentions five lunatics who contracted phthisis after staying one to three years in the "lower cells of the Philadelphia Almshouse Hospital (which are extremely humid and cold)."[375] The physician and Quaker Samuel Tuke[376] (1784-1857), second of the dynasty and grandson of the *Retreat's* founder, claimed a low death rate from phthisis for his institutions: he ascribed the high frequency reported elsewhere to poor custodial care. Similar claims were made later for Bicêtre[377] and Hereford,[378] though diagnostic incongruities may have accounted for the calculated differences. The public health type of approach is well enunciated by P. E. Snesarev,[379] who considers tuberculosis in the mentally ill a nosocomial disease: its frequency would represent a valuable index for the sanitary standard of the institution. A similar opinion is accepted today by many authors.[380]

Nevertheless, the nosocomial spread of contagion cannot explain everything. Insane asylums have appeared long ago: at Byzance *(morotrophium)* in 300 A.D., at Jerusalem in 491, at Cairo (*morostan*) in 800, at Metz in 1100, and at Bagdad (*dal almeraphtan*) in 1150; the Bethlehem in London, founded in 1247, opened up as a hospital in 1330. Inasmuch as conditions were worse than anyone cares to imagine, accepting strict proportionality between cause (poor hygiene) and effect (high tuberculosis rates), other diseases would have disappeared from the asylums for they could hardly find a victim among the few survivors of the white killer. No author has ever described such tuberculous epidemics, and this extreme example serves only to prove that other factors, such as natural resistance, are also involved.

One can assume that tuberculosis rates in any institution (school, asylum, prison) reflect the situation prevalent in the community of origin of its population, and, to a lesser degree, in the surrounding territory. Alastair Lamont[381] has calculated that in a South African mental hospital, native schizophrenics die of tuberculosis at a rate three times higher than patients of European origin. Variations are also seen in regard to age group, sex, length of stay in the institution, etc. It seems that, in connection

372 Phthisis and insanity. *J. ment. Sci.*, 1901, *47*, 667-678.

373 *Liber celerum vel acutarum passionum*, i, 9. See fol. 14 *verso et seq.* in the bibliographical rarity, the first edition from Guinterius' translation, printed in 1533 (Paris, Simon de Colines).

374 *Illustrations of pulmonary consumption.* Philadelphia, Key & Biddle, 1834 (p. 45).

375 It is today the Philadelphia General Hospital. The building containing said basement cells will soon be replaced by new constructions. The use of those cells for mental patients was discontinued in 1860 (personal communication from Dr. Robert J. Hunter of Philadelphia).

376 *Description of the retreat, etc.* York, Alexander, 1813 (p. 218).

377 Thore, Étude sur les maladies incidentes des aliénés. 4° article. *Ann. méd.-psychol.*, 1844, *4*, 182-211.

378 Chapman. Asylum reports. *J. ment. Sci.*, 1875, *21*, 296.

379 *Op. cit.*[362]

380 Katz, J. *et al.* Tuberculosis control in mental institutions. *N. Y. St. J. Med.*, 1951, *51*, 349-352. Balestrazzi, N. Tubercolosi e malattie mentali. *Rass. Studi psichiat.*, 1952, *41*, 44-52. Hendeles, F. R. Tuberculosis in mental hospital patients. *Tubercle*, 1952, *33*, 201-205.

381 *A study of racial and socio-economic influences on mental illness in a South African mental hospital.* Thesis. Glasgow, the author, 1948 (p. 49).

with psychotic populations, no author has stressed the fourth dimension: we are now witnessing the ripples of a tuberculosis cycle originated in the 15th or 16th century. Within the large wave that swept the globe, every community had its own undulation, depending on rural and urban status, speed of industrialization, communication facilities, age of population at wave onset, etc. Attention is drawn to the careful autopsy examinations collected by Johann Greding[382] at Waldheim (Sachsen), Germany, in the second half of the 18th century, and a similar series, assembled by Thomas Moran[383] in the first half of the 20th century at Danville, Virginia: any comparison at face value is futile. Even postulating the absence of pathogenic ties between mental illness and tuberculosis, it would require an electronic computer to collate the two groups of figures, in the vain attempt to contrast the respective sanitary conditions.

Seven years after Koch's first communication on the tubercle bacillus, one of his co-workers, Georg Cornet[384] (1858-1915), published the famous paper which established the fundamentals of tuberculosis prevention as derived from experimental procedures. Most of his conclusions are still valid. Some of Cornet's research was performed at mental institutions, and he was the first to suggest the isolation of the tuberculous insane, a measure formally requested in sanitary ordinances, referring to mental hospitals, issued in Prussia and Bavaria in 1889. The following year, S. Kalischer[385] discussed specifically the prophylaxis of tuberculosis in mental hospitals, and devised a control program so complete as to include even pre-employment examination of personnel; except for x-ray surveys, little has been added since then. *Habent sua fata libelli!* Judging from the few who quoted it, Kalischer's paper attracted no attention, perhaps because the periodical in which it appeared was seldom if ever seen by psychiatrists.[386] Nevertheless, its basic idea soon became common currency in Germany.[387]

In the U.S.A., pioneer work in this field was performed by James Babcock (1856-1922), who is better known for having first recognized pellagra in America. His description of the control of phthisis

382 *Op. cit.*[66]

383 Necropsy incidence of tuberculosis in a hospital for the mentally ill. *Dis. Chest*, 1948, *14*, 132-135. Of course, isolation of the tuberculous from the general population of any closed institution will result in a substantial decrease in the number of new cases (even if the rate of reactivation is not very much affected) as proved by Teller on figures from Illinois mental hospitals.

384 Die Verbreitung der Tuberkelbacillen ausserhalb des Körpers. *Z. Hyg. InfektKr.*, 1889, *5*, 191-331.

385 Ueber die Verbreitung und Verhütung der Lungenschwindsucht in Irrenanstalten. *Z. MedBeamte*, 1890, *3*, 250-256, 279-285, 334-345.

386 Nötel. Prophylaxe der Tuberculose in Irrenanstalten. *Allg. Z. Psychiat.*, 1892, *48*, 465-476.

387 Mercklin, A. Zur Prophylaxe der Tuberculose in Irrenanstalten. *Ibid.*, 1895, *52*, 806-816.

at the Lunatic Asylum in Columbia, South Carolina[388] deserves a perusal, if only for its modern flavor. The North shared in this work with contributions from New York,[389] Iowa,[390] Minnesota,[391] and Massachusetts.[392] In 1911, the National Tuberculosis Association Directory[393] calculated 3,492 tuberculosis beds (in 28 states) for an insane population (48 states) of 187,791.

The growth of similar programs in the British Isles is reminiscent of their racial development: a Celt[394] pioneered, being soon followed by an Hibernian,[395] an Englishman,[396] and a Scot.[397] An anglicized Frenchman[398] deplored the fact that air-conditioning introduced at the Northumberland County Asylum had failed to curtail tuberculosis mortality, contrary to the hopes warranted by the presumed airborne transmission of the disease. At the turn of the century psychiatrists in Denmark,[399] Italy,[400] Netherlands,[401] India,[402] Russia,[403] and France[404] had become tuberculosis-conscious. For comprehensive reports on the type and amount of specific measures taken in mental institutions in the first decade after World War I, reference is made to pertinent papers from France, Germany, England, and U.S.A.[405]

388 Prevention of tuberculosis in hospitals for the insane. *Amer. J. Insan.*, 1894, *51*, 182-195.

389 Allen, G. Phthisis among the insane. *St. Hosp. Bull., Utica*, 1896, *1*, 205-214.

390 Hill, G. H. Pulmonary consumption among the insane. *Iowa med. J.*, 1898, *4*, 441-445.

391 Bracken. Management of the tuberculous insane. *J. Amer. med. Ass.*, 1898, *31*, 431.

392 Harrington, A. H. Separate provisions for tuberculous patients in state hospitals for the insane. *Amer. J. Insan.*, 1900, *57*, 57-64.

393 P. 69.

394 McAllum, S. G. Is phthisis pulmonalis as common a cause of death in asylums as it used to be ? *Caledon. med. J.*, 1891-4, *1*, 291-298, cont.

395 Finegan. Tuberculous disease and its treatment in Irish asylums. *J. ment. Sci.*, 1895, *41*, 228-231.

396 Crookshank, F. G. The frequency, causation, prevention and treatment of phthisis pulmonalis in asylums for the insane. *J. ment. Sci.*, 1899, *45*, 657-683.

397 Gemmel, J. F. Isolation hospitals for consumption in the insane. *Glasg. med. J.*, 1900, *53*, 180-183.

398 France, E. Tuberculosis in the insane; its prophylaxis. *J. ment. Sci.*, 1897, *43*, 723-732.

399 Geill, C. Dödagerne—specielt Tuberkulosen—paa Sindssygeanstalterne. *Hospitalstidende*, 1891, *9*, 217-224.

400 Scabia, L. L'isolamento dei tubercolosi negli ospedali. Sua importanza nei manicomi. *Ann. Freniat., Torino*, 1899, *9*, 206-217.

401 Deventer, J. van, Sr. and Benders, A. M. De tuberculose in Meerenberg. *Psychiat. neurol. Bl., Amst.*, 1899, *3*, 406-440.

402 Palk, C. H. L. The relation of insanity to tubercular disease of the lung. *Trans. S. Indian Br. Brit. med. Ass.*, 1900, *8*, 387-391.

403 Toporkoff, N. N. Report at the 9th meeting of Russian physicians, St. Petersburg, 1904. Summarized in *Rev. neurol.*, 1904, *12*, 847.

404 Marie, A. Les aliénés et la tuberculose, *Rev. Médecine*, 1906, *26*, 543-557.

405 Reyner, J. and Beaudouin, H. À propos de la tuberculose dans les asiles d'aliénés. *Ann. méd.-psychol.*, 1925, *1*, 21-41. Ostmann, Untersuchungen über die Tuberkulose als Todesursache in der Heilanstalt Schleswig. *Allg. Z. Psychiat.*, 1926, *85*, 459-473. Evans, A. E. Tuberculosis in mental hospitals. *Tubercle*, 1927, *8*, 197-207. Klopp, H. J. The care of tuberculous mental patients in mental hospitals. *Amer. J. Psychiat.*, 1927, *6*, 641-659.

In the last twenty years, tuberculosis control programs for the mentally ill have gained impetus all over the world. Articles on the subject have been published in Argentina by Gomez and Brisco Capurro (1940) and J. C. Vivaldo (1946), in Brazil by A. C. Pacheco e Silva (1941) and B. Garcia de Carvalho (1942), in Canada by McGhie and Brink (1934) and C. A. Wicks (1940), in France by Briau (1934), in Germany by A. Zech (1940) and H. Stolze (1941), in Great Britain by H. D. Cormac (1937) and Berrington and Greenwood (1942), in Italy by G. Muggia (1937) and Rosa Bellincioni (1940), in the Netherlands by A. J. van de Graaf *et al.* (1937), Hamer and Wentzel (1938), and A. P. Ketel (1940), in Spain by C. Martinez Almoyna (1935), in Sweden by Wohlfahrt *et al.* (1935), Blomqvist (1936), Malmros and Wessel (1937), L. Essen-Möller (1941), and Alström *et al.* (1943), in Switzerland by Z. Wechsler (1933), in U. S. A. by H. A. Burns (1936), H. E. Hilleboe (1937, 1940), L. Carp (1937), M. Pollak *et al.* (1938, 1941), A. A. Leonidoff (1938, 1943), Plunkett and Tiffany (1941), Brown and Northrup (1942), Deegan *et al.* (1942), D. B. Ruskin (1945), and M. W. Garry (1946), and in U.S.S.R. by P. E. Snesarev (1942).

Accurate and economical detection of active and/or contagious cases is the basic approach of modern tuberculosis control based on relatively recent scientific developments. In 1876 Cullère[406] considered the thermometer his best tool in the diagnosis of phthisis among the insane. Forty years later G. Barth[407] could add only weight curves and tuberculin skin testing, although over twenty years had elapsed since Roentgen's discovery. The diagnostic accuracy can be judged from the frequency of variations in temperature and weight during catatonic episodes due to disturbance of the water balance. The diagnostic use of tuberculin in the mentally ill originated in France with H. Dufour and M. Dide,[408] in England with E. France,[409] and in Germany with K. Osswald,[410] all of them intending to elicit a specific origin of the psychosis. Similar ideas resulted in the employment of other types of tuberculin reaction[411] or related biological procedures.[412] Tuberculin skin tests, preferably Mantoux with OT and recheck of the negatives with PPD, are part of the routine in any control program.[413] In spite of claims to the contrary, no evidence has been found for a special skin reactivity in the mentally ill.[414] The sedimentation rate,[415] of questionable clinical value, is useless for screening purposes.

406 Cõntribution à l'étude de la tuberculose chez les aliénés. *Ann. méd.-psychol.*, 1876, *15*, 161-190.

407 Tuberkuloseerkennung bei Geisteskranken. *Allg. Z. Psychiat.*, 1919, *75*, 227-239.

408 Tuberculine, tuberculose. Encéphalopathies délirantes. *Rev. neurol.*, 1899, *7*, 802-804.

409 France, E. Abstract of paper on the necessity for isolating the phthisical insane. *J. ment. Sci.*, 1900, *46*, 1-30.

410 *Op. cit.*[254]

411 Declerc, H. Oculo-réaction, cutiréaction et sous-cutiréaction en psychiatrie. *Arch. Neurol.*, Paris, 1908, *1*, 1-21. Lane, L. A. A study of the Moro tuberculin ointment test, with special reference to its use in the insane. *Amer. J. Insan.*, 1910, *66*, 477-486.

412 Shaw, C. J. (1907): tuberculo-opsonic index. Hamel, J. and Courtier, G. (1931): complement deviation with methylic antigen. Kindermann, V. and Hofmann, R. (1933): antibodies. Waldvogel, W. (1937): Meinicke's tuberculoreaction. Baldi, F. (1934): complement fixation.

413 Bogen, E. *et al.* Tuberculosis and mental disease. A tuberculin survey in a state hospital. *Amer. Rev. Tuberc.*, 1934, *30*, 351-357. They used O. T. with Pirquet technique. Gomez, J. B. and Brisco Capurro, A. I. Indice tuberculinico en alienados en el Hospicio de las Mercedes. *An. Cat. Pat. Tuberc., B. Aires*, 1940, *2*, 470-472.

414 Aikawa, J. K. *et al.* Skin tests in psychoses. *N. C. med. J.*, 1947, *8*, 582-588.

415 Bailey, L. J. Clinical evaluation of sedimentation test in tuberculous mental patients. *Int. Clin.*, 1941, *1*, 53-77. Extensive bibliography.

Radiology was a latecomer to the mental hospital, partly because early installations required long exposures, which could not always be obtained with uncoöperative patients. H. I. Klopp (1927) reported that chest x-rays were taken in 55 out of 106 U.S.A. mental hospitals polled; G. Ilberg (1928) regarded the introduction of such a service as desirable in German asylums; the Australian R. G. Williams (1929) wrote: "Mental hospitals do not as a rule have x-ray installation available for radiography of the chest. . . ." One of the first to publish papers on chest radiography in the insane was the Italian G. Croce,[416] followed by D. Casavola (1933), and in France by Lauzier *et al.* (1933). The Canadians McGhie and Brink[417] exposed plates on all tuberculin reactors as did the Minnesotan H. Burns (1936). Routine fluoroscopic examination was recommended by Harrison and Schein (1937) in the U.S.A., G. P. Frets (1937) in the Netherlands, and A. Zech (1940) in Germany, while J. R. Blalock *et al.*[418] introduced for this purpose paper rollfilm radiography in the insane. Manoel de Abreu devised the first workable apparatus for radiophotography in 1936; and another Brazilian, C. Pereira da Silva,[419] obtained photoroentgen films on 315 mental patients in April 1939. The latter method was only sporadically employed in German asylums,[420] but was well accepted in the U.S.A.[421] and England.[422] It did not appear satisfactory to Ahldin and Hansson,[423] perhaps because of the use of 35 mm. film, replaced today by the 70 mm. size and the 4x10 (or 4x5) inches, each with its special indications. Good results in the survey of mental patients have been reported by A. H. Russakoff (1947) in Alabama, H. Pleasure (1948) in New York, W. R. Oechsli (1949) in California, D. F. Early (1950) in England, Pendergast and King (1950) in Australia, and Peacock and Domancic (1952) in Georgia. It is today the method of choice, in use for mental patients all over the world, including the Maoris in New Zealand,[424] the Bantus and Hottentots in Africa.[425]

The detection of tuberculosis in the mental defective followed a similar pathway. In the beginning, tuberculin testing was recommended,[426] while recently preference is given to serial x-ray examination.[427]

Despite radiological improvements, the final diagnosis requires bacteriological means. The first reported positive sputum from an insane person was examined on 18 June 1886.[428] In view of the frequent deglutition of

[416] Tubercolosi e schizofrenia nell'indagine radiologica. *Schizofrenie*, 1932, *1*, 53-58.

[417] Tuberculosis survey in a mental hospital. *Amer. J. Psychiat.*, 1934, *13*, 975-985.

[418] Incidence of pulmonary tuberculosis in Southwestern State Hospitals. *Virginia med. Mon.*, 1940, *67*, 465-469.

[419] A radio-fotografia de Manoel de Abreu no Serviço de assistência a psicopatas do E. de S. Paulo. *Arch. Serv. Psicop. S. Paulo*, 1939, *4*, 235-242.

[420] Stolze, H. Die Erfassung der Lungentuberkulose in Heil- und Pflegeanstalten. *Allg. Z. Psychiat.*, 1940, *116*, 438-453; 1941, *117*, 280-283.

[421] Hilleboe, H. E. *et al.* Tuberculosis case finding in institutional populations; use of 35 mm. fluorograms among mentally ill. *Amer. J. publ. Hlth*, 1942, *32*, 516-522.

[422] Snell, W. E. *et al.* Tuberculosis survey at mental hospitals by miniature radiography. *Lancet*, 1943, *2*, 636-638.

[423] Erfarenheter vid skärmbildsfotografering asinnessjukhus. *Nord. med. Tidskr.*, 1943, *18*, 708-710.

[424] Adrian Webb, Auckland, N. Z. Personal communication.

[425] J. S. De Wet, Fort Beaufort, South Africa. Personal communication. It was published in the *S. Afr. med. J.* of October 3, 1953.

[426] Evans, W. A. Consumption in prisons, asylums, jails, and in the community at large. *19th Bienn. Rep. Board of State, Commissioners of Public Charities*, Springfield, Illinois, 1907 (p. 175-184). Bronfenbrenner, A. N. (1932). Blomquist, I. (1940). Zacks, D. and Sartwell, P. E. (1941).

[427] Danzer, J. T. (1946). Garry, M. W. (1947). Pollak, M. *et al.* (1948). Theodos, P. A. Clinical features of tuberculosis in feebleminded. *Tuberculology*, 1950, *11*, 47-95.

expectorated matter, attempts to obtain specimens from the gastro-intestinal tract were made at an early date. Unfortunately D. Anglade[429] selected the wrong end though he had at least one follower,[430] notwithstanding the statement by Calmette himself that such a route is not recommendable. Everything from gastric washing with culture to laryngeal swab and guinea-pig inoculation is discussed by Dost,[431] even if B. Hartung[432] was credited by A. Ansani[433] with having popularized the gastric washing in the insane, a recommended procedure whenever sputum is not available. A. Weiner[434] reported the use of transtracheal anesthesia for bronchoscopy in the psychotic though in most institutions preference is given to the routine pharyngeal route. Bronchial lavage, with or without bronchoscope, is very useful for the detection of otherwise latent contagiousness.

Appropriate measures to curtail tuberculosis contagion are now in force in many parts of the world: Sweden,[435] Panama,[436] Australia,[437] Italy,[438] Canada,[439] England,[440] etc. In this country the pioneer work on a state-wide basis must be credited to Herbert Burns[441] of Minnesota, while after World War II facilities were organized in New York by Julius Katz *et al.*,[442] in California by Waldo Oechsli,[443] and on a large and very efficient scale in Illinois by Ernest Teller.[444] A nation-wide approach was encouraged by four organizations: (i) the American Trudeau Society through a committee headed by Robert Plunkett,[445] (ii) the U. S. Public

428 Müller, A. *Ueber einen Fall einer phthisischen Psychose.* Thesis. Würzburg, Thein, 1886 (p. 8).

429 La propagation de la tuberculose par les bacilles contenus dans les selles. Prépondérence de ce mode de propagation dans les asiles d'aliénés. *Ann. méd.-psychol.*, 1902, *1*, 50-58.

430 Williams, R. G. Differential diagnosis of wasting in the insane. *Med. J. Austr.*, 1929, *1*, 520-524.

431 Lungentuberkulose in der Irrenanstalt. *Allg. Z. Psychiat.*, 1932, *97*, 61-73.

432 Ueber eine einfache Hilfsmassnahme zum Tbk.-Bazillennachweis bei Geisteskranken. *Münch. med. Wschr.*, 1934, *81*, 716-717.

433 Il metodo di Hartung per la ricerca del bacillo della tubercolosi nei malati di mente. *Rass. Studi psichiat.*, 1935, *24*, 137-140.

434 Treatment of psychiatric tuberculosis patients. *Dis. Chest*, 1950, *17*, 388-397.

435 Alström, C. H. *et al.* Schizophrénie et tuberculose. *Poumon*, 1949, *5*, 97-108.

436 Strauss, L. Analisis de la población (1933-1948) e incidencia de la tuberculosis pulmonar en el Retiro Matias Hernandez (1943-1948). *Bol. Asoc. méd. nac. Panama*, 1949, *13*, 63-81.

437 Prendergast, F. and King, A. Pulmonary tuberculosis in mental hospitals of Western Australia. *Med. J. Austr.*, 1950, *1*, 78-79.

438 Poggio, G. and Modonesi, C. Organizzazione antitubercolare negli istituti psichiatrici. *Rass. Studi psichiat.*, 1951, *40*, 474-487.

439 Frappier, A. *et al.* A tuberculosis survey in the largest mental hospitals of the province of Quebec. *Canad. J. publ. Hlth*, 1952, *43*, 242-251. They use B.C.G.

440 Mann, B. T. Tuberculosis in mental hospitals. *Brit. med. J.*, 1952, *1*, 1228-1229.

441 A study of the incidence of tuberculosis in state institutions in Minnesota. *Amer. Rev. Tuberc.*, 1936, *33*, 813-824.

442 Prevalence of pulmonary tuberculosis in New York state institutions for the mentally ill. *Psychiat. Quart.*, 1945, *19*, 644-656.

443 Tuberculosis control programs of nine California mental institutions. *Publ. Hlth Rep., Washington*, 1949, *64*, 4-16.

444 Control of tuberculosis in Illinois mental hospitals. *APA Bull.*, Washington, 1950, no. 8, 7.

445 *Amer. Rev. Tuberc.*, 1946, *54*, 448-456.

Health Service through the chief of its Tuberculosis Division, Robert Anderson,[446] (iii) the American College of Chest Physicians through a committee of which the chairman is Otto Bettag,[447] and (iv) the American Psychiatric Association through its Mental Hospital Service.[448]

In regard to the treatment of tuberculous psychotics as recommended by our ancestors, one may quote Haly[449] (10th century), who advised *phlebotomia in basilica* for all causes of mania with cough. Phthisic mental patients were often subjected to bleeding, if only for the high repute of this practice in the treatment of either disease. In the first medical book printed in America, Francisco Bravo[450] (16th century) included—aside from the masterful clinical description of the tabardillo—a bulky chapter called *Dialogus de venesectione in pleuritide*. The phthisical and maniacal virgin of Mead[451] (18th century) was repeatedly bled though not as heroically as the 15-year-old girl, affected with *'hysterical hemoptysis,'* from whom John Torbet[452] (19th century) extracted in four days sixty ounces of blood; significant is the comment by Thomas Laycock[453] who approved of this treatment: "This case is altogether remarkable. It illustrates well the metastatic nature of these (hysteric) affections, and the tenacity of life which the subjects of them possess." In the post-partum psychosis with phthisis reported by Landsberg,[454] the patient was less tenacious and succumbed seven weeks after delivery under a heavy strain of bleeding and purging. Our predecessors were certainly too depletive, yet posterity will probably challenge our abuse of repletion.[455]

The melancholical hemoptyses of Camillo Montagnana, a 38-year-old physician of Modena, are described in an unfinished report by Cardano[456] who recommended for this disease the wearing of an emerald. Also of Zoroastrian tradition was the search for the "elixir of life," though this may as well be regarded as an alchemistic attempt to reduce to one formula the complicated polypragmasy. In medieval lore the elixir, a shortcut to eternal youth and health, was the liquid form of the philosopher's stone or substance capable of transmuting everything in gold. Among the exorcists who prepared the famous stone was the mysterious *Philosophus Americanus*, alias Aeyrenaeus (Eirenaeus or Cyrenaeus) Philalethes, who practised quackery among early settlers in this country. He discovered the formula for the "stone" in 1645, at the age of 23 years, and subsequently liquefied it for marketing purposes under the name of *tinctura philosophica*: accord-

446 *Publ. Hlth Rep., Washington*, 1949, *64*, 1-3.

447 *Dis. Chest*, 1950, *18*, 263-264.

448 March, April and May 1952 issues of *Ment. Hosp., Washington*.

449 *Op. cit.*[10]; Practicae vi, 15.

450 *Opera medicinalis*. Mexici, Ocharte, 1570; ii (fol. 90b to 164a). Fol. 91 is erroneously paginated as 81.

451 *Op. cit.*[112]

452 On diseases simulating acute inflammatory attacks of various important organs. *Edinb. med. surg. J.*, 1835, *44*, 374-408.

453 *An essay on hysteria*. Philadelphia, Haswell, 1840 (p. 38).

454 Manie und Lungenschwindsucht. *Mag. ges. Heilk.*, 1845, *64*, 403-436.

455 Straus, B. and Torres, J. M. Use and abuse of blood transfusions. *J. Amer. med. Ass.*, 1953, *151*, 699-701.

456 Unfinished manuscript, first printed in *Opera omnia*, Lugduni, Huguetan & Ravaud, 1663; Paralipomenon, vii, 3 (v. 10, p. 498). Courteous efforts made in Modena and at the Biblioteca Estense by Dr. C. Mario Cattabeni of Milano, Italy, disclosed no further trace of this case history.

ENARRATIO METHODICA
TRIUM GEBRI
MEDICINARUM,

In quibus continetur

LAPIDIS PHILOSOPHICI
VERA CONFECTIO.

AUTORE

ANONYMO ſub nomine ÆYRENÆI
PHILALETHES, natu Angli,
habitatione Coſmopolitæ.

AMSTELODAMI,
Apud Danielem Elſevirium
cIↃ IↃC LXXVIII.

Fig. 5.

EXPERIMENTA
DE
PRÆPARATIONE
MERCURII SOPHICI
AD
LAPIDEM,

Per Regulum Martis Antimoniatum Stellatumque & Lunam

Ex Manuſcripto Philoſophi Americani, alias

ÆYRENÆI PHILALETHES, natu Angli, habitatione Coſmopolitæ.

Fig. 6.

Fig. 5. This rare 1678 octavo exhibits the device of the Elzeviers and figures in Willems' catalogue (1880), though part of the edition was printed by William Cooper in London. It is a confusing commentary on the triple gradation of medicaments, implying a step-up preparation and activity, supposedly ideated by the mythical Arabian Jabir (about 800 A.D.) (Geber in the German version). The virtues of the third-degree panacea were said to offer a cure for any disease, including melancholy and phthisis. The anonymous editor, and at least co-author of the *Ennaratio,* was George Starkey (1606-1666), an English alchemist and alleged famulus of pseudonymic Philalethes. On the last page are listed seven books in Latin, eight in English, and thirteen unpublished MSS, all ascribed to the same Philalethes.

Fig. 6. This insert on page 181 in the *Ennaratio* announces the chapter describing the preparation of the magic stone, from the MS of the agnominal *Philosophus Americanus.* The "philosophical substance" was to be prepared from arsenic, mercury, vinegar, sea salt, antimony, ammonia, urine, white sulphur, and three kinds of water (rain, fountain, and distilled). Amounts and details are largely omitted to prevent duplication and to allow for the personal touch. Transformation into "potable gold" required the addition of oil and dye (yellow sulphur). The existence of innately gullible segments of the population cannot in itself explain the survival of cultists and fringe-practitioners. The sick ask for faith, and since today's honest physician should never guarantee a cure, quackery will disappear only if and when the art of medicine has become a science.

ing to claims made, it was the perfect remedy for both *oethica* and *melancholia.*[457] A century later Sauvages[458] treated phthisical hypochondriasis with *edulcorantia, diluentia, lacticinia,* and horseback riding, but admitted there was no hope of avoiding a fatal issue. After another century Golgi[459] had an optimistic approach, believing that aconite, iodine, sea salt, and cod-liver oil would effect a lasting cure of phthisical insanity. As soon as Koch introduced his bacillus to the scientists, they replied with an amazing array of "antiparasitic" mixtures[460] compounded from aluminium, aniline, arsenic, coal tar, creosote, naphtha, peroxide, phenol, picric acid, sulphur, etc. Every possible entrance was made available for the purpose; thus Claude Bernard's experimental evidence that gases introduced through the rectum are (also) evacuated via the lungs prompted the treatment of pulmonary tuberculosis by pneumorectum with "sulphuretted hydrogen." Even Edward Trudeau[461] experimented with this procedure, using mineral water from Richfield Springs, considered more potent than European sources. Jean Lépine[462] cured tuberculous psychosis with colloidal silver or, "particularly easy," with sodium nucleinate. Henry Damaye[463] recommended iodine, and T. J. Mays,[464] rattlesnake venom. S. A. Knopf[465] suggested the application on the patient's face of a cheesecloth mask sprinkled with a mixture of eucalyptus oil, menthol, and chloroform, stating: "Even the mentally disturbed patient, constantly breathing something pleasant, will realize in the majority of cases that no harm is done and the mask with pleasant and soothing odor will quiet his disturbed nerves."

Treatment procedures are often evaluated by comparing percentages in two or more groups of cases. Few realize how nugatory such a correlation can be, even if simple things, such as five-year survivorships, are matched. The use of "randomized" cases improves the comparableness, but it may be worsened by the "pool" technique. Patients suffering from any chronic ailment subject to spontaneous, long-term remissions may be divided into (i) those who will survive five years, even untreated, (ii) those who will die before five years are over, even if treated, and (iii) those whose survival can be influenced by the type of treatment appraised. Obviously only the last category is suitable for evaluation purposes, but so far there is no method, even in retrospect, to determine to which group a given individual belongs. Therapeutic results calculated from the total number of patients (instead of only from group iii) maintain their comparison value with patient material having a similar repartition of the three groups. In the case of tuberculosis, the proportion of the three groups is largely determined by the epidemiological phase of the community to which the patients belong. Age, sex, duration, extent of illness, and other factors retain also a con-

457 *Ennaratio methodica trium Gebri medicinarum in quibus continetur lapidis philosophici vera confectio.* Amstelodami, Elsevirium, 1678 (p. 176).

458 *Loc. cit.*[73]

459 *Op. cit.*[80]

460 Wesener, F. Die antiparasitäre Behandlung der Lungenschwindsucht. *Zbl. Bakt.,* 1888, *4,* 499-508, cont.

461 A case of phthisis treated for eight weeks by rectal injections of gas. *Med. News, N. Y.,* 1887, *50,* 453-455.

462 Étude sur l'encéphalite subaigue curable des tuberculeux. *Rev. Médecine,* 1908, *28,* 820-839.

463 Deux cas de confusion mentale subaigue par intoxication tuberculeuse. *Rev. Psychiat., Paris,* 1909, *13,* 187-198.

464 The therapeutic action of rattlesnake venom in pulmonary consumption and in some well-recognized neuroses. *Boston med. surg. J.,* 1909, *160,* 481-485.

465 Is there any relation between tuberculosis, mental disease and mental deficiency? *Med. Rec., N. Y.,* 1917, *91,* 1-8.

spicuous bearing on these proportions. Hence a certain treatment procedure or control program may yield different results at Helsinki, at Chicago, and at Bombay, yet the main reason for this is seldom realized. Statistical analysis of therapeutic accomplishments will not be presented in the following pages simply because they afford no true comparison. A wider recognition of the above facts does not necessarily foster a therapeutic nihilism, and it might contribute to a better understanding of our limitations.

A. E. MacDonald inaugurated on 5 June 1901 a tent for 40 tuberculous psychotics at the Manhattan State Hospital in New York.[466] Similar facilities were soon organized in many institutions, for instance by George Zeller at Peoria State Hospital in Illinois (1903). Newell Burns (1917) and Henry Klopp (1927) list the therapeutic armamentarium in use: rest, fresh air, liberal diet, nursing care, and symptomatics, to which T. B. Kidner[467] added weaving and light gardening as preferred rehabilitation procedures. A. Kennedy (1942) suggested chemical restraint for the enforcement of strict bed rest, but Blalock and Funkhouser (1943) obtained in certain cases better results when ambulation was permitted. In this respect physicians treating chest diseases are much more lenient now than twenty years ago.

Pneumothorax and pneumoperitoneum in the mentally ill have been recommended by S. A. Leader (1939), E. F. Dombrowski *et al.* (1940), H. Stolze (1941), M. Pollak *et al.* (1941), Altshuler and Bailey (1941), C. Modonesi (1947), L. O. Lambiotte *et al.* (1949), and Wassersug and McLaughlin (1951). Since 1938, Loeb and Wilcox have stressed that psychosis *per se* is no contraindication for chest surgery; and they were joined by A. A. Leonidoff (1942, 1943) who recommended thoracoplasty, partly because his pneumothorax results were not satisfactory. In the meantime the still controversial indications for segmental and other pulmonary resections in the nonpsychotic tuberculous were widely encouraged. The trend spread, and today procedures that are obsolete (thoracoplasty) or even harmful (phrenicectomy) are being discontinued, and reliance is placed on long-term chemotherapy, pneumoperitoneum, and circumscribed excisions. Suggested in 1886,[468] the first pneumonectomy in the mentally ill was performed by George Sommer, Jr. *et al.*[469] on 13 October 1948 in New Jersey. The first resection (right upper lobectomy) on a

[466] Haviland, C. F. Tent life for the tuberculous insane. *Amer. J. Insan.*, 1903, *59*, 319-327.

[467] Occupations for the tuberculosis insane. *Psychiat. Quart.*, 1927, *1*, 344-351.

[468] MacDonald, P. N. Remarks on a case of mania with phthisis: pulmonary fistula: death: necropsy. *Brit. med. J.*, 1886, *1*, 10-11.

[469] Collapse therapy for tuberculous psychotic patients. *Amer. Rev. Tuberc.*, 1953, *67*, 232-246.

psychotic in Michigan was done in June 1949,[470] while the first similar operation in Indiana took place in October 1951.[471] The extraperiosteal paraffin pack, a technique elaborated by William Adams (1950), was introduced in mental patients by Laurence Rubenstein in 1952, the same year in which he performed the first pulmonary resection in Illinois mental institutions.

It has been the rule to exclude mental patients with tuberculosis from physical treatments, such as hydrotherapy, and from malariotherapy. However, the fever bouts did little harm in the hands of authors such as Mo Gatti *et al.* (1933), S. A. Leader (1936), and H. Pleasure (1944). The introduction of penicillin treatment made the procedure obsolete.

Likewise, for over a decade, tuberculous psychotics were not subjected to any form of shock therapy, be it with insulin as proposed by Sakel in 1933, with metrazol as suggested by Meduna in 1935, or with electricity as introduced by Cerletti in 1938.[472] G. Kraus[473] was the first to report that a tuberculous pneumonia had appeared after six injections of cardiazol; subsequently, similar incidents were described in the Netherlands by A. J. van de Graaff *et al.* (1938), in England by J. S. Harris (1938), in Italy by G. Taddei (1939), in Hungary by Meduna and Friedman (1939), in France by G. Demay *et al.* (1939), and in the U.S.A. by Bulley and Greene (1941). In 1940, at a meeting in Florence, L. Telatin[474] related identical occurrences after insulin injections, but the cumulative tabulation of J. L. Kinsey (1941) calculated a substantially higher rate of reactivated tuberculosis for metrazol. Of these two drugs only insulin is still in use though on a lesser scale than before; occasionally, papers such as that by M. G. Boittelle and C. Boittelle-Lentulo[475] will elaborate on its hazards.

The first two cases of tuberculosis reactivated after electric shock therapy were seen by G. Croce and P. Cassiano.[476] A few similar instances were recounted by R. E. Hemphill (1942), E. Samuel (1943), and D. Casavola (1948). In their commentaries and in those of L. H. Smith *et al.* (1942), T. L. Dehne *et al.* (1943), Simeone and Della Torre (1946), and Altshule and Tillotson (1948), the scanty evidence on record was considered sufficient to contra-indicate electro-convulsive treatment even after the chest condition had become inactive. Yet R. Bellincioni[477] treated an arrested

[470] Isbister, J. L. *et al.* A tuberculosis control program in a mental institution. *J. Mich. med. Soc.*, 1951, *50*, 1251-1254, 1281.

[471] Weinstein, L. A re-evaluation of treatment of tuberculous mental patients. *Ment. Hosp., Washington*, 1952, no. 5, 6.

[472] Application of electricity to the head for the treatment of mental disease was a common practice in the 18th century; see Sauvages, *op. cit.*[72] IV, 309. According to Friedreich, J. B. (*Literärgeschichte der Pathologie und Therapie der psychischen Krankheiten.* Würzburg, Strecker, 1830, p. 360), it was particularly successful in mania and melancholia. It is questionable whether grand mal seizures were ever induced, though this might be inferred from Franklin's oft quoted statement that electricity can abate a man without killing him.

[473] Komplikationen bei der Cardiazol-Behandlung nach von Meduna. *Psychiat. neurol. Bl., Amst.*, 1938, *42*, 81-83.

[474] Insulinoshockterapia e tubercolosi. *G. Psichiat. Neuropat.*, 1942, *70*, 17-26.

[475] Tuberculose pulmonaire et chocs insuliniques. *Ann. méd.-psychol.*, 1952, *2*, 293-295.

[476] Elettroshock-terapia. *Schizofrenie*, 1939, *7*, 45-78.

[477] Alcune complicanze polmonari consecutive ad E.S. *Rass. Studi psichiat.*, 1940, *29*, 797-802.

case, Rondepierre *et al.*[478] an active tuberculosis; Impastato and Almansi (1943) "shocked" even a patient with pneumothorax, and no untoward effect was noted. C. Modonesi (1947), Will and Duval (1947), and particularly T. M. Moore (1947) requested a reconsideration of the problem. By accumulating enough material, M. A. Sbarbi,[479] R. W. Medlicott,[480] R. Kaldeck *et al.*,[481] G. Rivolta,[482] B. Jentoft,[483] H. P. Close,[484] D. Ghercomitant antibiotic therapy, but its necessity has not been definitely proved. Today, electrofit is administered, regardless of the coexistence of tuberculosis, provided adequate medical and radiological supervision is available. This is the policy followed by Clark and Weber (1950) in Ontario, by L. Weinstein (1951) in Indiana, and by McClellan and Schwartz (1952) in California. It is also advocated in the 1952 edition of a standard text on somatic treatments in psychiatry (Kalinowsky and Hoch).

A curious suggestion was based on the belief that schizophrenia is due to multiple cerebral thromboses caused by clusters of tubercle bacilli: it consisted of the advice to apply electroshock with simultaneous histamine injections, on the assumption that the blood pressure changes thus created could dislodge the thrombi.[486]

In 1925 B. J. Weigel found "definite psychoneurosis or psychosis" in 47 per cent of 200 tuberculous patients; such a high incidence has never been confirmed and may be due to psychiatric evaluation by cosmetic standards. In 1933 T. Lindner incriminated tuberculous sensitization as the reason for a transitory schizophrenic reaction; E. Meltzer[487] spoke of *'symptomatische tuberkulöse Psychose';* H. Stefan[488] described a *'tuberkulöse Intoxikationspsychose.'* Recently C. Nielsen[489] calculated 27 per cent reactive psychoses among the 112 inhabitants of the tuberculosis ward of a mental institution. In this relationship, antibiotic therapy has added a problem: are confusional states due to specific[490] or to

[478] Electro-shock dans un cas de manie aigue chez un tuberculeux. *Ann. méd.-psychol.*, 1941, *2*, 414-417.

[479] Consideraciones sobre electroshockterapia. *Prensa méd. argent.*, 1948, *35*, 293-296.

[480] Convulsive therapy. *N. Zealand med. J.*, 1948, *47*, 338-348.

[481] Physical risks of electro-convulsive therapy. *New Engl. med. J.*, 1948, *239*, 773-779.

[482] La possibilità di trattamento con l'elettroshock dei malati mentali tubercolotici. *Policlinico (sez. prat.)*, 1949, *56*, 748-750.

[483] Convulsive treatment in 56 tuberculous mental patients. *J. ment. Sci.*, 1949, *95*, 651-654.

[484] Use of electroshock therapy in treating psychiatric patients with associated pulmonary tuberculosis. *Amer. J. Psychiat.*, 1949, *106*, 352-357.

arducci,[485] etc. succeeded in reversing the general trend. Some favor con-

[485] L'elettroshock in tubercolotici ammalati di mente. *Riv. Pat. nerv. ment.*, 1950, *71*, 136-140.

[486] Löwenstein, E. Suggestions for new therapy in dementia praecox. *J. nerv. ment. Dis.*, 1944, *99*, 925-927.

[487] Die Beziehungen der Tuberkulose zu den Geisteskrankheiten. *Med. Welt*, 1933, *7*, 325-328.

[488] Ueber die Beziehungen zwischen Tuberkulose und Psychose. *Klin. Wschr.*, 1935, *14*, 754-755.

[489] Lung tuberculosis precipitating reactive psychoses. *Acta psychiat., Kbh.*, 1951, *26*, 49-59.

[490] Bonhour, A. Confusion mental y mioclonia generalizada en un tuberculosos. *Rev. Psiquiat. Crim., B. Aires*, 1940, *5*, 201-214.

drug[491] toxicity? A similar question has been raised for paranoid reactions, following (*post hoc, ergo propter hoc*) gaseous embolus[492] or treatment with P.A.S.[493]

In the fourth and fifth decade of the 20th century, many authors paid tribute to the holophrastic tradition of their predecessors.

Et quasi cursores, vitae lampada tradunt.[494]

The neoteric concept places weight on the toxic origin of tuberculous psychoses. In France René Targowla[495] discusses *'psycho-encéphalites tuberculeuses,'* Henri Claude *et al.*[496] suggest a comparison with syphilis by the term *'paratuberculose nerveuse,'* and Maurice Hyvert[497] attempts a connection with the atypical forms of clinical and subclinical tuberculosis, individualized by René Burnand (Geneva) and popularized by André Jacquelin (Paris). In Italy Vito Buscaino mentions cautiously *'psicosi tubercolari a sintomatologia schizofrenica,'* Vittorio Martinengo[498] advances *'schizofrenia da intossicazione tubercolare,'* and Carlo Rizzo[499] calls it outright *'schizofrenia tubercolare.'* In Brazil, Mirandolino Caldas[500] succeeds in distinguishing between *'disfrenias tuberculosas'* and *'tuberculosas disfrenicas.'* In Cuba Enrique Reyna Quintero *et al.*[501] classify the *'locuras tuberculosas'* among toxic or infectious psychoses. In Norway Carsten Nielsen[502] translated the "name" into *'Tuberkulopsykosene.'*

Careful perusal of sixth-decade literature[503] failed to produce a more recent lampadephore. The importance and the unpredictable consequences of such a lapse make its correction mandatory. This

491 Nobile, F. Stato confusionale in corso di streptomicino-terapia praticata intramuscolo. *Minerva med., Roma,* 1951, *2,* 153-157. Despierres, G. Les encéphalopathies au cours de la streptomycinothérapie. *Rev. tuberc., Paris,* 1952, *16,* 392-396.

492 Moulis, A. Accident nerveux au cours d'une insufflation de pneumopéritoine (démence consécutive). *Ibid.,* 1951, *15,* 736-738.

493 Pugh, D. L. *et al.* Toxic psychiatric manifestations in the treatment of tuberculosis with sodium para-aminosalycilate. *Tubercle,* 1952, *33,* 369-376.

494 Lucretius, *De rerum natura,* ii, 79.

495 Tuberculose et troubles mentaux. *Pr. méd.,* 1933, *41,* 238-240.

496 Sur les relations pathogéniques du virus tuberculeux avec la démence précoce. *Encéphale,* 1933, *28,* 561-587.

497 Les psycho-encéphalites de la tuberculose atypique. *Sem. Hôp. Paris,* 1948, *24,* 693-699.

498 Tubercolosi e schizofrenia. *Schizofrenie,* 1934, *3,* 51-66.

499 *Op. cit.*[51]

500 *Arch. Serv. nac. Doenç. ment., Rio de J.,* 1943, *1,* 351-367.

501 Importancia clinica de las condiciones de aparicion de la tuberculosis pulmonar en los enajenados mentales. *Rev. cubana Tuberc.,* 1947, *11,* 249-253.

502 Lungetuberkulose som arssak til sinnssykdom. *Tidsskr. norske Laegeforen.,* 1950, *70,* 40-41.

503 Until 1 March 1953.

is why the term '*phymatoselenosis*'[504] is being offered in the hope that its impressive euphony of Ionic origin might constitute an encouragement for prospective torchbearers.

The heuristic value of these secular efforts cannot be denied. As to the causal relationship between the two conditions, 2,500 years of sophistry have but paraphrased the factual Coan notion that tuberculosis may appear in a psychotic and a psychosis can develop in a phthisic.[505]

Back in 1605, Baco de Verulam[506] wrote: "Medicine is a science which has been more professed than labored and yet more labored than advanced; the labor having been in my judgment rather in circle than in progression. For I find much iteration with small addition."

The bibliography has been compiled with the courteous coöperation of the following libraries (classified by amount contributed): (1) John Crerar, Chicago, (2) University of Illinois (medical), Chicago, (3) Armed Forces Medical, Washington, (4) Archibald Church, Northwestern University Medical School, Chicago, (5) Armed Forces, Historical Branch, Cleveland, (6) William Harper (classical, divinity), Chicago, and (7) Charles Deering (general reference, literature), Evanston, Illinois. Some of the references included are not available in the U.S.A. at this time; they had been seen by this writer on previous occasions, or were added through the kind assistance of European friends, and of the following libraries (listed alphabetically by countries): (a) Bibliothèque de la Faculté de Médecine de Paris; (b) Universitätsbibliothek, Medizinische Abteilung, Köln-Lindenthal; (c) British Museum, London; (d) Universiteits-Bibliothek, Amsterdam. The literature of several countries has been screened for the purpose of this paper (negative results were also significant) through the obliging urbanity of the following colleagues: (i) Nicholas Oekonomopoulos, Athens; (ii) Raman Viswanathan, New Delhi; (iii) Giovanni L'Eltore, Rome; (iv) N. Shibata, Tokyo; (v) Adrian Webb, Auckland; (vi) Arthur Landau, Cape Town; and (vii) Fernando Gomez, Montevideo.

504 From the Greek *phyma* (tubercle) and *selenos* (moon), i.e. tuberculous lunacy. A possible abbreviation is physenosis (physenotic). Alternate selections: psychotuberculosis, psychophymatosis, tuberculoselenosis.

505 In the natural course of a nation's life cycle, there is a gradual decrease in both birth rate and frequency of infectious diseases, with a concomitantly lengthened life span and mounting neoplastic mortality, all these occurrences being a logical consequence of the "fundamental law of life" (a paper by this title has been submitted elsewhere for publication). Compared with state and national averages, after allowing for differences in age distribution, there is still more tuberculosis, a shorter life span, and less cancer among mental populations, as if the psychotic condition would coincide with a reversal of the biological clock, a presumption corroborated by the allegedly higher potential fertility of mental patients.

506 Sir Francis Bacon, *De dignitate & augmentis scientiarum* iv, 2.

Notes and Queries

Edited by Dorothy M. Schullian, Ph.D.*

On the Meaning of the Words CERUSSA *and* PSIMITHIUM (PSIMYTHION) **

It is probable that no other form of the metal has played so important a part in the history of lead poisoning as the pigment called white lead (*céruse, blanc de plomb, Bleiweisz*). Historians of medicine, together with historians of technology and of chemistry, have been interested, therefore, in early knowledge of this common, useful, and dangerous substance. Was it known in antiquity? White lead is essentially a mixture of lead carbonates with the hydroxide[1] and is formed of metallic lead, acetic acid, and carbon dioxide. The words *psimithium* and *cerussa* (in later Latin often *cerusa*) are usually translated "white lead," but the objection has frequently been raised that the method of manufacture described by ancient authors would have produced lead acetate instead.

The principal ancient authorities on the question are Theophrastus (*De Lap.*, 101), Dioscorides (V, 103), Vitruvius (VII, 12) and Pliny.[2] All direct that lead is to be placed in a vessel containing vinegar, although not in contact with the vinegar. Theophrastus and Pliny place it "over" the vinegar; Dioscorides puts in on a mat supported by a stick in the middle of the jar; Vitruvius mentions a layer of vine twigs, the vinegar to be poured over them and the lead placed on top. All authorities require that the vessel be covered. Both Dioscorides and Pliny assert that the material formed on the surface of the metallic lead drops into the vinegar, from which it is recovered; Pliny says that it is dried, powdered, and sifted, moistened again with vinegar, made into tablets, and dried in the summer sun. Somewhat different is the account given by Galen, who says that *cerussa* is made by dissolving litharge in vinegar and burying the vase containing these substances in dung for forty days.[3]

The difficulties are two: (i) In Bailey's words, "there is no mention in the ancient literature of any source of carbon dioxide, unless one is to be found in Dioscorides' statement that in winter the ceruse was dried over a

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1 Cf. Mellor, J. W. *A comprehensive treatise on inorganic and theoretical chemistry*. London, 1927, vol. 7, pp. 846-47.

2 Cf. Bailey, Kenneth C. *The Elder Pliny's chapters on chemical subjects*. London, 1932, vol. 2, p. 204 (note on *Historia naturalis*, XXXIV, par. 175, in which the other sources cited above are also discussed).

3 Cf. Hofmann, K. B. Das Blei bei den Völkern des Altertums. *Sammlung Gemeinverständlicher wissenschaftlicher Vorträge*, 1885, 20, p. 42; Pulsifer, W. H. *Notes for a history of lead*. New York, 1888, p. 209; Mellor, *op. cit.*, p. 829.

bath-house oven or stove, which would certainly evolve carbon dioxide."[4] Although dung has been used in modern times as the source of carbon dioxide, Pulsifer rejects this solution of the problem on the ground that the vessel buried in dung was supposed to be covered and hence "it is not probable that this substance furnished any other adjunct to the reaction than the heat evolved in its decomposition."[5] (ii) "If a little lead carbonate were accidentally formed, it would be decomposed again by the action of the vinegar used in moulding the tablets,"[6] if not by the initial wetting with vinegar immediately after its formation.

Bailey categorically asserts that "*psimithium* (or cerussa) was acetate of lead (sugar of lead) formed by the action of the acetic acid of vinegar on the lead, and containing, no doubt, some basic lead acetate."[7] This is merely to exchange one difficulty for another. "Lead acetate is unsuitable for use as a pigment. It is freely soluble in water, and possesses no opacity or covering properties when mixed with a suitable vehicle for use in painting. Pliny and other early writers refer to white lead [i.e. *cerussa*] as a pigment, and there is every reason to believe that it was used for such purposes."[8] Bailey chooses not to discuss this point, but he several times refers to *cerussa* as a "pigment" and in three instances he even translates it "white lead."[9]

Pulsifer is convinced that the ancients produced true white lead. He assumes that the vinegar of antiquity contained a considerable amount of the residuum of the grapes, a possible source of carbon dioxide.[10] Whatever may be thought of this as a chemical explanation, Pulsifer's more general argument seems a sensible one. He points out that the ancient authors "doubtless had no practical knowledge of the process, and trusted entirely to other and earlier authors for their information upon this subject; consequently the omission to refer to the presence of one constituent . . . might easily escape the notice of those unacquainted with the rationale of the process."[11]

Interesting as it is to speculate on the details of the method used in antiquity, the failure of ancient writers to give an account of it which will satisfy the modern chemist is no reason to deny that white lead actually was produced. The danger of the argument *ex silentio* may be illustrated by reference to a standard chemical work of the eighteenth century, in which

4 Bailey, *loc cit.* The passage from Galen is not discussed.

5 Pulsifer, *loc. cit.*

6 Bailey, *loc. cit.* Pulsifer raises the same objection. The tablets made with vinegar are peculiar to Pliny and are not mentioned by the other authorities.

7 Bailey, *loc. cit.*

8 Pulsifer, *loc. cit.*

9 *Historia naturalis* (Bailey), XXXIII, 102 (vol. 1, p. 115); XXXIV, 104 (vol. 2, p. 37); XXXIV, 150 (vol. 2, p. 61). These passages precede Pliny's account of the preparation of *cerussa;* however, in the first instance cited, Bailey's note refers to that account.

10 Pulsifer, *op. cit.*, pp. 211 ff. *Mycoderma aceti* may have provided a continuing source of CO_2.

11 *Ibid.*, p. 210.

it is directed that "leaden rolls ought to be so supported in the pots that they do not touch the vinegar, but that the vapor of this acid may circulate freely betwixt the circumvolutions: these pots are to be covered, and placed in a bed of dung, or in a sand-bath, by which a gentle heat may be applied."[12] The pots are to be *covered*: whether or not the covers are to be perforated the author does not say. No source of carbon dioxide, other than the dung, is anywhere mentioned; if a sand-bath is to be used instead of dung, the source of carbon dioxide is unaccounted for.[13] In the absence of other information, applying Bailey's criterion to this passage would lead to the conclusion that eighteenth-century chemists were unable to produce white lead.

In discussing the method of Dioscorides, Pliny, etc., Mellor contents himself with the remark: "These writers did not recognize the part played by warmth and carbon dioxide in the process."[14] He does not deny that white lead was produced. Berendes, too, concedes that white lead was actually formed; he considers that it resulted from the subsequent manipulation of the products of corrosion.[15] To this may be added the authority of Kobert, who describes Pliny's method "wobei an der Luft Bleiweiss entsteht, namentlich wenn man den Process über längere Zeit ausdehnt."[16] If one were to judge by the properties ascribed to *psimithium* (*cerussa*), rather than by the accounts of its manufacture, there would be little question that these words refer to white lead, or at least to a mixture in which white lead was the chief ingredient.

Speaking of Egyptian medical texts, Henry E. Sigerist has observed: "All such technical books presupposed a certain amount of knowledge and we must never expect them to describe every single procedure in full detail."[17] This is an admonition worth keeping in mind when we study the technical writings of peoples much later than the Egyptians. If every detail of procedure is not to be expected, much less can we expect a full description, in terms comprehensible to the modern reader, of every reagent employed. Modern authors, attempting to duplicate the ancient manufacture of white lead, have failed to apprehend the full force of these considerations.

LLOYD G. STEVENSON

12 [Macquer, Pierre Joseph], *A dictionary of chemistry*, Translated from the French. London, 1771, Art. CLVI (Ceruss), p. 153. On the reputation of Macquer's book in France, see *Histoire de la Société Royale de Médecine*. Paris, 1776, vol. 1, pp. 105-06.

13 If the source of heat for the sand-bath is also the source of carbon dioxide, there remains the objection made by Pulsifer: the pots are covered.

14 Mellor, *loc. cit.*

15 Berendes, J. *Des Pedanios Dioskurides . . . Arzneimittellehre*. Stuttgart, 1902, p. 521; cf. Diergart, in *Mitt. Gesch. Med. Naturw.*, 1937, *36*, 257.

16 Kobert, Rudolf. *Historische Studien aus dem Pharmakologischen Institute der Kaiserlichen Universität Dorpat*. Halle, vol. 3, 1893, p. 315. Hebing, on the other hand, believes that nothing but the acetate could have resulted from the method of Vitruvius; cf. *Mitt. Gesch. Med. Naturw.*, 1933, *32*, 101.

17 Sigerist, Henry E. *A history of medicine*. New York, 1951, vol. 1, p. 302.

Glisson on Gall Bladder Pain

Dr. Nathan A. Womack, who occupies the Chair of Surgery at the University of North Carolina in Chapel Hill, has directed our attention to a remarkable passage in Francis Glisson's *Anatomia hepatis* (London, 1654), published just three hundred years ago. Dr. Womack's associate, Professor B. L. Ullman of the Department of Classical Languages at Chapel Hill, has given the excellent rendering of the passage which follows. This indicates that Glisson was familiar with the vagal innervation of the gall bladder and that he erroneously attributed the pain of cholecystitis and other gall bladder affections to the sensory innervation coming from the vagus. Modern investigators place the visceral afferents from the liver, *et al.* in the splanchnics, especially the right, from whence they enter the central nervous system via dorsal roots T_6-T_{11}. Since the association of Glisson's name with this syndrome has not previously been recognized, it seems appropriate to publish his account in the JOURNAL.

Chapter XXX. On the distribution of the nerves in the liver

The nerves of the liver have their origin in certain branches of the sixth pair. Spigelius says that the outer branch of the left nerve of the sixth pair goes off to the upper opening of the stomach, and on its right side is distributed into many little branches; that from this an offshoot is carried alongside the upper region of the stomach to the pylorus, and passes from there to the hollow part of the liver. He also asserts that the inner branch of the right nerve of the same combination [pair?] sends forth a branch [shoot] into the bile sac and the hollow part of the liver. So, in his opinion, two nerves of diverse origin (though both come from the sixth pair) enter the liver, one from the left outer branch, the other from the right inner branch; that is to say, they lead into its hollow part nearer the portal vein and into its common capsule.

Riolanus also recognizes these nerves but does not give their origin; from this one may readily suspect that their origin was not clearly seen by him. However, he widened [the knowledge of] their origin [heredity] and extended their boundaries farther than was right (that is, into the parenchyma of the liver itself); and on that word he quarrels with Galen. "Galen writes," he says, "that slight sensation was attributed to the liver, similar to [that of] plants, so that it could distinguish useful from useless. And elsewhere he states that that little nerve penetrates not even into the parenchyma of the liver but spreads only to the membrane and for this reason enjoys only the sensation of weight. Yet I have seen two conspicuous little nerves alongside the portal vein, entering the very substance [main part] of the liver, whose pains are very sharp, not only from the sensation in the membrane but also that of the parenchyma itself." From this it is clear that he means that the nerves enter the liver along with the portal vein; and so they ought to lead into the common capsule. But he supports very badly this part of his opinion, according to which he either asserts the distribution of those nerves into the parenchyma or accuses Galen of error because he [Galen] wanted the liver to have a share only in dulled sensation. I at least, learning from frequent dissection [? taking off the flesh], can testify to this, that there is no trace of any small nerve outside the common capsule in the parenchyma of the liver, and that those nerves which have entered

it at no point creep out into the parenchyma, but that all terminate either in the substance of the capsule itself or in the covering of the bile duct. And so I abandon Riolanus and completely go over to the opinion of Galen, for it cannot be that a part that is merely similar and deprived of all nerves should enjoy very keen sensation.

But the pains of the liver, he says, are very sharp. He ought to have said, however, on what indications he depended [in saying that] pains of this sort had to do with the liver and not with nearby organs. Or at least he might have informed us what diseases in particular were accompanied by those pains, so that it would become clear whether they were in the liver or not. Since he explains the matter in an indefinite fashion, the suspicion readily arises that, being ignorant about this subject, he preferred to deal in generalities.

To be sure, in inflammation of the liver there is present a sort of heavy pain on the right side. But that a sharp pain occurs in this disease has not yet been ascertained by those who practise medicine. And if perhaps at times pains sharper than usual are felt, they can of course be attributed with some probability to nearby organs that are suffering; for example, the ligaments of the liver; or that part of the diaphragm to which the liver is closely attached by means of a broad suspensory [falciform ligament?]; or to the peritoneum covering the false ribs in the right hypochondrium; or, finally, the covering and container of the liver, although I doubt very much whether a sharp pain could actually attack the covering and container of the liver.

I have often found that a pain not unlike colic precedes jaundice and likewise sometimes follows it. It differs from ordinary colic because it extends beyond the sword-shaped cartilage [falciform ligament?] to about the middle of the sternum; in fact it sometimes extends even to the clavicles. It spreads also to the hypochondria and many other parts of the abdomen, and in almost all these places this biting and rending pain is felt. There is present, I say, an extreme pain, accompanied by no fever, and it ties up the body in a knot like colic. Although the obstruction of the liver can up to a certain point be the cause of these extreme pains, still the liver cannot be the seat of them, since they extend to points far removed from it. Perhaps too the colon sometimes to some extent shares in this pain. The stomach, however, has it particularly bad in comparison with all other organs, and too the peritoneum which covers the false ribs. As a result I am inclined to believe that it invades the membranes located under the sternum. This pain has often annoyed me, especially after the use of opium; in fact, I used to be tortured sometimes by the same trouble after drinking only two drams of diacodium, but a generous and frequent drink of cold white wine brought me immediate relief. Enemas also bring a cure for this illness, as do other medicines suitable for jaundice. Whether some portion of this pain is lodged in the liver itself I, for my part, doubt. But if it is so, I am convinced that this part [of the pain] must be attributed to the covering or container, which is supplied with nerves, but not the parenchyma, which is not.

These nerves in the liver are distributed in a manner like the liver arteries. I mean, they spread fine little ligaments into the common capsule and the roots of the bile duct that are in the way. They are clearly divided according to the norm of the common capsule, so that in their entire length they serve the aforementioned containers.

Shelley's Heart

Shelley's heart did not burn. It was snatched from his funeral pyre by Edward Trelawny, who discovered it would not take the fire. Given by Trelawny to Leigh Hunt, who bestowed it upon Mary Shelley who kept it (now crumbled to dust) between the pages of *Adonais* until her death, it was at last buried in 1889 with the body of Sir Percy Florence Shelley.

This remarkable incident crowning the life and death of Shelley, *Cor Cordium,* is perhaps the unspoken epitome of Romanticism. It doubtless leaves the college English student or the reader of Maurois' *Ariel* with the feeling that it is fitting and proper that the heart of a prophet of Shelley's stature should not burn and in this mildly supernatural fact lies the approval of heaven on his work.

It is not to be doubted that Shelley's heart was actually impregnable to fire. Trelawny, who is adequately if morbidly detailed on the subject, shows that his preparations should have been quite sufficient. "I had taken the precaution of having more and larger pieces of timber, in consequence of my experience of the day before in the difficulty of consuming a corpse in the open air with our apparatus." Trelawny continues, "The fire was so fierce as to produce a white heat on the iron, and to reduce its contents to grey ashes. The only portions that were not consumed were some fragments of bones, the jaw, and the skull, and what surprised us all, was that the heart remained entire."

The Shelley scholar is aware of Shelley's hypochondriacal troubles; Shelley's unburnable heart suggests a physical basis for some of his complaints. It seems very probable that Shelley suffered from a progressively calcifying heart, which might well have caused diffuse symptoms with its increasing weight of calcium and which indeed would have resisted cremation as readily as a skull, a jaw, or fragments of bone. Shelley's heart, epitome of Romanticism, may well have been a heart of stone.

ARTHUR M. Z. NORMAN

Note on the French Translation of Howard's "State of the Prisons"

The shocking state of the hospitals in general and of the Hôtel-Dieu in Paris in particular was well known for many years prior to the investigation of the latter institution by Lavoisier and his *Académie* colleagues in 1786.[1] One of the chief reasons for this new probe was the furor created by the publication of John Howard's second (1780) and third (1784) editions of *The state of the prisons . . .* (Warrington)[2] which pointed out the horrible condition of the hospitals, especially the Hôtel-Dieu. The first

[1] For details see L. Mac-Auliffe, *La révolution & les hôpitaux* (Paris, 1901) and D. I. Duveen and H. S. Klickstein, "Antoine Laurent Lavoisier's contributions to medicine and public health," presented at the twenty-seventh annual meeting of the American Association of the History of Medicine, New Haven, Connecticut, 8 May 1954.

[2] See L. Baumgartner, *Bull. Hist. Med.*, 1939, 7, 486-534, 595-626, for bibliographical details.

French translation of Howard was not made until 1788,[3] however, and probably resulted from the new interest aroused by the *Académie* reports; it was a rather free anonymous rendering which was reissued again in 1791. Baumgartner[4] has pointed out that J. M. Quérard[5] attributes the translation to Louise-Félicité Guinement de Kéralio (1758-1821),[6] whereas the Bibliothèque Nationale mentions J.-P. Bérenger as the translator. The following information suggests that Quérard was probably correct in crediting the rendering to Mlle de Kéralio.

Some time prior to the Revolution, Mlle de Kéralio married P.-F.-J. Robert, a member of the *Convention Nationale* and deputy for Paris to the *Assemblée Nationale*. Together they were the founders and controllers of the *Première Société Fraternelle de Patriotes de l'un et de l'autre sexe*, a left-wing organization whose activities dealt largely with the hospital prob-

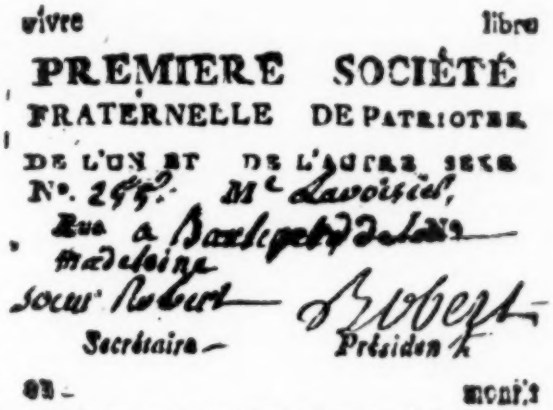

Fig 1. Madame Lavoisier's membership card.

lem and which may well have been stimulated by Mlle de Kéralio's translation of Howard. The society published an *Extrait des délibérations de la Société fraternelle des deux sexes, séante aux Jacobins-Saint-Honoré, du dimanche 4 Décembre de l'an III* [1791]. *La Soeur Louise Robert ayant la parole, a dit . . .*, (n. p., n. d.) which was concerned with reforms of hospital administration; it was evidently considered of some value since it was discussed in another publication printed by order of the *Assemblée Nationale*.[7]

Robert was also a member of the influential *Club des Cordeliers* which was, like the *Société Fraternelle de Patriotes*, left-wing in tenor; he was an avowed enemy of the *Société de 1789* and indeed of all moderate elements. This is of some interest since Madame Lavoisier was a member of the

[3] *État des prisons, des hôpitaux et des maisons de force*: . . . (Paris); see L. Baumgartner, *loc. cit.*

[4] See above, note 2, p. 512.

[5] J.-M. Quérard, *Dictionnaire des ouvrages anonymes*, Paris, 1874 vol. 5, p. 297.

[6] See *Nouvelle biographie générale . . .*, Paris, 1858, vol. 27, p. 598 for a list of her translations, many of which were anonymous.

[7] *Suite du Rapport, fait par le Comité de Mendicité, des divers hôpitaux de Paris. Imprimé par ordre de l'Assemblée nationale*, Paris, 1791.

Société Fraternelle de Patriotes; her membership card (No. 255) of this body has recently come to light and is reproduced herewith. Madame Lavoisier's active interest in philanthropic matters and Lavoisier's part in the study of hospital reform account for her association with this organization. Lavoisier, however, was a staunch advocate of the conservative *Société de 1789,*[8] and this makes it somewhat paradoxical that his wife should have belonged to an organization whose avowed objective was to destroy it.

DENIS I. DUVEEN
HERBERT S. KLICKSTEIN

The Rome Congresses—September 1954

Rome during September 1954 was the meeting place of many congresses, all of interest to historians of medicine. The World Population Conference, arranged and jointly financed by the United Nations and some of its Specialized Agencies, brought delegates from almost every country of the civilized world to discuss population trends and their significance not only for medicine, but in world planning for the acute problems of food supply in overpopulated areas such as India, Malaya, and Indonesia.

Coinciding with the Population Conference, more than a thousand delegates appeared for the Third International Congress on Poliomyelitis at which the chief presentations were by the recent Nobel Prize winner, John F. Enders, in collaboration with his able associates, and by John R. Paul who, as he had in Copenhagen three years earlier, gave a distinguished résumé of the accomplishments and the aims and aspirations of the polio investigators. The congress was honored the next day (11 September) by an official audience with His Holiness, Pope Pius XII, at Castel Gandolfo at which the Pontiff spoke at some length on the achievements of those now participating in poliomyelitis investigations.

The International Congress of Historians of Pharmacy had also foregathered during the week of the polio congress and they, too, were honored by a papal audience at which the Pope, instead of speaking in French as he had to members of the polio congress, delivered a learned address in classical Latin.

For the readers of this JOURNAL, there will be greater interest in the XIVth International Congress of the History of Medicine which was held, as was the polio congress, at the Città Universitaria of Rome during the week of 12-17 September, followed by a second session at Salerno on 18-20 September. Dr. Adalberto Pazzini, the Professor of Medical History of the University of Rome, had planned the Congress and served as President, ably assisted by the Secretary General, Dr. M. Galeazzi. There was a large gathering with more than four hundred official registrants from all parts of the world, and the wide range of communications bore testimony to the lively interest in this field of study. It was especially gratifying to see such men as Henry Sigerist who read an eloquent éloge in English on the late Dr.

[8] D. I. Duveen. *J. Chem. Education,* 1954, *31,* 60-65.

Arturo Castiglioni; Dr. Sigerist also gave one of the four *relazioni* on the challenging theme, "What Medicine has Contributed to the Progress of Civilisation." The Rector of the University of Madrid and Professor of Medical History, Dr. Pedro Lain Entralgo, read an erudite paper, "El Medico en la Historia." A third *relazione* by Professor Ranz André Sondervorst of Louvain was entitled "La Médecine Vecteur Humain entre les Peuples." The fourth general paper was given by Dr. John Fulton on "The Scientific Writings of Joseph Priestley—1733-1804."

The congress was formally opened at the Campidoglio under the chairmanship of the Mayor of Rome, with the eminent physiologist of Messina, Dr. Gaetano Martino, now Italian Foreign Minister, as the representative of the President of the Italian Republic. The Mayor introduced the speakers, including Professor Pazzini and His Excellency, Dr. Martino, who spoke at some length on the importance of medical history to the cultural background of students of medicine.

The Congress on the History of Medicine was also honored (on the 17th) at a formal audience at Castel Gandolfo at which Pope Pius spoke in the following sympathetic terms concerning the importance of the historical approaches in medicine. The text of his speech appeared in *L'Osservatore Romano* for 19 September 1954 (a publication, incidentally, which was founded by the Pope's grandfather). The introductory and concluding remarks have been translated from the Italian, the main text is given in the original French.

Papal Audience at XIVth International Congress

At a special audience yesterday afternoon, Friday, the Holy Father received the members of the XIVth International Congress of the History of Medicine which has been held at Rome with delegates from thirty-eight countries participating. The final important meetings of the Congress, which were organized by the Istituto di Storia della Medicina dell'Università di Roma and presided over by Professor Adalberto Pazzini, will take place at Salerno during the next few days. The participants were guided by Professor Pazzini and by the Secretary General of the Congress, Dr. Mario Galeazzi.

Among the distinguished members presenting papers at the Congress were Professors Vincenzo Busacchi (Bologna); Luis De Pina (Porto); Ivolino De Vasconcellos (Rio de Janeiro); Douglas Guthrie (Edinburgh); Robert Herrlinger (Münchsteinach); Pedro Lain Entralgo (Madrid); Placido Micheloni (Roma); Raymond Neveu (Paris); Teizo Ogawa (Tokyo); F. Oliver (Zaragoza); Rafael Schiaffino (Montevideo); F. Sondervost (Louvain); E. Wickersheimer (Schiltigheim).

The Holy Father, upon his arrival in the Salone degli Svizzeri, received the homage of the Congress members and their families who numbered over three hundred persons. Seated on his throne, the August Pontiff delivered a gracious speech to the assembly which is reported here.

Parmi les nombreux Congrès qui se tiennent à Rome à la fin de cet été, plusieurs sont organisés par des associations de médecins pour étudier des questions intéressant directement la pratique actuelle de cette noble pro-

fession. Mais, élargissant le cadre ordinaire de vos préoccupations, vous avez voulu, Messieurs, dans votre XIV^e^ Congrès International d'Histoire de la Médecine, inscrire au programme quelques thèmes de portée plus générale, dignes de retenir l'attention de quiconque s'intéresse aux problèmes culturels. Aussi sommes-Nous très heureux de vous recevoir en cette occasion pour vous féliciter et souhaiter à ces rencontres le plus grand fruit.

Le rythme étonnament rapide, qui entraîne depuis plus de cent ans l'évolution des sciences, n'a pas manqué de provoquer les plus heureuses conséquences dans le domaine de l'art de guérir. En même temps que s'approfondissait au siècle dernier la connaissance du corps humain, de sa structure et de ses fonctions, l'avènement de la microbiologie lançait la médecine dans la voie, d'un progrès tellement radical que l'on a peine à comprendre les idées et les pratiques des médecins qui vécurent à une époque moins fortunée. Et pourtant, les conceptions actuelles en anatomie, physiologie, et pathologie, la précision des methodes modernes de recherche ne constituent que l'aboutissement de longs tâtonnements et la continuation d'une route particulièrement difficile. Compléter le tableau magnifique de l'histoire de la médecine, en éclairer les points obscurs, préciser tel ou tel trait des figures d'avant-plan ou des disciples plus modestes qui appliquent et vérifient les intuitions des maîtres, redresser aussi les interprétations inexactes qui défigurent la réalité, telle est, Messieurs, la tâche que vous vous proposez.

Mais vous n'oubliez pas que les leçons du passé doivent servir aux hommes du temps présent, les instruire, leur éviter de répéter certaines erreurs ou de s'engager sur des chemins sans issue. En médecine, comme dans les autres branches du savoir, il n'est pas rare que des principes bien établis viennent peu à peu à s'obscurcir, victimes parfois d'une routine qui en fausse la portée jusqu'à les dénaturer et les condamner à disparaître. Arrive un jour cependant où la vérité ressuscite. En relisant les anciens, l'on s'aperçoit que déjà ils avaient ouvert la voie et formulé des règles sages. Aux fervents de l'histoire de la médecine, il appartient de rechercher les trésors oubliés et de les remettre en valeur. C'est pourquoi Nous souhaitons que les thèmes de relation traités dans vos sessions: la médecine comme moyen d'union entre les peuples, sa contribution au progrès de la civilisation, l'école de Salerne et le monde médical préuniversitaire, projettent sur certains aspects du passé un éclairage nouveau, susceptible d'intéresser et d'instruire les contemporains.

La médecine, science et art occupe, dans les civilisations, une place vraiment particulière: son importance pour l'individu comme pour la société, les qualités requises chez celui que l'exerce, le caractère sacré de la vie humaine dont elle dispose, déterminèrent dès l'antiquité l'intervention du législateur, soucieux d'en contrôler l'exercice. Deux millénaires avant le Christ, le code fameux d'Hammourabi promulgue les peines et les récompenses qui sanctionnent l'échec ou la réussite des interventions médicales. Il était nécessaire cependant qu'une activité aussi complexe et délicate trouvât, pour l'orienter, les enseignements d'un maître conscient de ses exigences techniques, autant que de ses responsabilités morales. Le génie grec, si fécond dans tous les domaines de la culture, allait là aussi donner sa mesure. Les écrits d'Hippocrate contiennent sans aucun doute une des plus nobles expressions de la conscience professionnelle, qui impose en particulier le respect de la vie et le dévoûment au malade, et tient compte aussi des facteurs personnels: maîtrise de soi, dignité, discrétion. Celui qui sut mettre en évidence ces normes morales, et les présenter dans l'ensemble d'une

doctrine suffisament complète et harmonieuse, fit à la civilisation l'hommage d'une oeuvre plus grandiose que celle des conquérants d'empires.

Nous ne pouvons oublier que, fidèle à cet idéal, la médecine fut et reste destinée à tenir un rôle capital, lorsque se déchaînent les terribles fléaux, guerres et épidémies, qui menacent jusqu'à l'existence des peuples. Dans les angoisses et l'urgence de ces conjonctures, elle se découvre alors des ressources insoupçonnées, tant par l'invention et la mise au point de thérapeutiques nouvelles, que par le dévoûment héroîque des médecins à leur mission de salut.

L'histoire de l'école de Salerne illustre à merveille le rôle international de la médecine et son apport civilisateur. Lorsque les invasions barbares submergèrent l'Empire Romain, l'Eglise réussit à conserver dans ses monastères l'essentiel de la culture gréco-latine et, en particulier, les écrits des principaux auteurs médicaux. Mais en outre, fidèles à la pratique de la charité chrétienne, les moines s'appliquèrent aussi à secourir malades et infirmes et gardèrent vivantes les traditions d'où sortit au XI^{e} siècle cette école médicale, qui fut la plus célèbre du Moyen-âge avant la fondation des Universités; Salerne rayonnera bientôt après sur toute l'Europe et enverra partout les disciples qu'elle aura formés.

Aujourd'hui, grâce à la multiplicité des moyens de diffusion de la pensée, la science médicale dispose au maximum des avantages de la collaboration internationale. De nombreuses associations groupent les diverses spécialités et instaurent par dessus les frontières une féconde émulation. La médecine continue ainsi à promouvoir efficacement le progrès de la civilisation et remporte chaque année, pour ainsi dire, l'une ou l'autre victoire importante. Quel puissant stimulant pour étudier avec passion l'histoire d'un art si intimement mêlé à la croissance intellectuelle et morale des peuples, partageant toutes leurs vicissitudes, reflétant toutes les péripéties de leurs progrès et de leurs décadences!

En affrontant le problème de la maladie, le médecin, qu'il le veuille ou non, doit prendre position devant celui de la destinée humaine. S'il ne reconnaît rien au delà des phénomènes biochimiques, n'avoue-t-il pas implicitement l'échec de tous ses efforts? Or c'est là une attitude contre laquelle s'élève non seulement le sens intime de tout individu, mais cette longue marche séculaire, cette progression courageuse et tenace que détaille l'histoire de la médecine. L'homme de coeur, qui engage toutes ses énergies dans la lutte contre la maladie, ne peut ignorer le message de Celui qui s'est dit le Maître de la vie et de la mort et qui a prouvé cette affirmation par de nombreux prodiges, en particulier par celui de sa propre résurrection. Il ne peut ignorer surtout que le Christ promet à tous les hommes dociles à sa parole, de les faire participer un jour à son triomphe définitif.

Nous souhaitons, Messieurs, que cette vérité si consolante vous soutienne dans votre labeur quotidien, austère et exigeant, dont le monde éprouve sans cesse les immenses bienfaits. Que la Divine Providence en assure le succès et vous accorde de réaliser vos meilleurs désirs. De tout coeur, Nous vous en donnons pour gage Notre Bénédiction Apostolique.

His Holiness then gave his Apostolic Blessing which was received by all with heartfelt recognition. Having risen from his throne he then graciously accepted the homage of Professor Pazzini who presented him with a bronze medal commemorative of the Congress.

The Holy Father then chatted amiably with the officers and speakers of the Congress both foreign and Italian, who kissed his hand and received his

best wishes and expressions of lively interest in their studies and families.

When His Holiness left the great reception hall, hearty applause confirmed the devotion and gratitude of all those present.

Convegno Internazionale di Studi sul Poliziano e il suo Tempo

Medical history, as readers of this JOURNAL know, appears in places where it might not be expected. At the international meetings held at Florence and Montepulciano 23-26 September 1954 to commemorate the five hundredth anniversary of the birth of Politian, the following communications revealed some of the ways in which the great humanist touched upon the field of medicine: Robert Weiss, "Un allievo inglese del Poliziano, Thomas Linacre"; Juliana Cotton Hill, "Materia medica del Poliziano"; M. G. Nardi, "N. Leoniceno e Poliziano." In addition, the paper by Augusto Campana entitled "Contributi alla biblioteca del Poliziano" set forth Politian's connection with Vaticanus latinus 6337, which was copied from the well-known medical manuscripts Laurentianus LXXIII.1 and LXXIII.41.

In time for the meetings there was issued at Rome, in the series *Note e discussioni erudite,* edited by Augusto Campana and published by Edizioni di Storia e Letteratura, the *editio princeps* of Politian's poem *Sylva in scabiem.* This important edition, done under the capable care of Alessandro Perosa and furnished with helpful introduction and commentary, will be reviewed in a later issue of this JOURNAL.

Anniversary of the Birth of Silas Weir Mitchell

The Section on Medical History of the College of Physicians of Philadelphia and the Philadelphia Neurological Society held a symposium on 5 November 1954 to observe the one hundred and twenty-fifth anniversary of the birth of Silas Weir Mitchell. There were two papers on the program, one given by Dr. I. S. Wechsler, Clinical Professor of Neurology at Columbia University, whose subject was "S. Weir Mitchell, the Neurologist," and the other by Dr. Ernest Earnest, Professor of English at Temple University, who spoke on "S. Weir Mitchell, the Man of Letters." An informal dinner was held at the College preceding the lectures.

History of Medical Service in the British Navy

The Trustees of the Wellcome Museum have agreed to furnish Surgeon-Commander John J. Keevil, R.N. (Retd.), D.S.O., M.A., M.D., with the financial support necessary to enable him to produce a History of Medical Service in the British Navy from the earliest period from which significant records are available to the end of the nineteenth century. The work of preparing the History is expected to occupy several, possibly as many as five

years, and details concerning the publication of the work will be announced later when the completion is in sight.

Medicine in Art

The various points at which the artists and the physician have met through the centuries have often produced interesting results, both entertaining and informative. In the last two or three years several art galleries throughout the country have brought together groups of works to illustrate one facet or another of these confluences, that at the Milwaukee Art Institute having been noted in this JOURNAL (1953, *8*, 450). Recently, two more art galleries have coöperated with local medical groups in arousing interest in some timely happening (see *This Week Magazine*, 28 November 1954, p. 14). The Baltimore Museum of Art arranged an exhibit of ten centuries of art entitled "Man and his years in art and life." The three sections of the exhibit illustrated (i) the work of artists whose greatest achievements came late in life (Dürer, Titian, Rembrandt, Goya, etc.), and by long-lived modern masters (Matisse, Picasso, etc.); (ii) artists who began their work after an active life in some other field. The third section contained famous paintings of old people, including Gilbert Stuart's George Washington. The exhibit was arranged on behalf of the committees on geriatrics of the Baltimore City Medical Society and the Medical and Chirurgical Faculty of the State of Maryland.

At Hartford, Connecticut, the Wadsworth Atheneum, in honor of the centennial of the Hartford Hospital, arranged a special exhibition which opened on 13 October for two months. Under the title, "The Medicine Man: Medicine in Art," the exhibit depicts the reaction of peoples through the ages to the various manifestations of disease and different types of cures thought to be efficacious. An excellent catalogue of the 385 items with nine plates and an introduction by A. Hyatt Mayor, Curator of Prints of the Metropolitan Museum of Art, was issued by Mr. Charles C. Cunningham, Director of the Atheneum, and is available for one dollar.

Piss-Pot Science

In 1928 Dr. Harvey Cushing acquired for his library an exceedingly rare and diverting book from Pickering and Chatto, the title-page of which is here shown. Only four other copies of the book are known: British Museum, Emmanuel College, Cambridge, Armed Forces Medical Library, and the Lane Medical Library, San Francisco.

This book is important in the first instance because it is a vigorous attack against medical quackery. In Elizabethan England examination of the urine ('uroscopy' as it was also termed) played a large part in diagnosis and treatment by serious physicians as well as quacks, and Brian was bent on ridiculing the enormous favor the 'piss-prophets' enjoyed. The volume is

of special interest because it indicates that already in 1637 the piss-prophets were thinking along the lines of the Ascheim-Zondek reaction. The passage runs (*The Pisse-Prophet,* Chap. X, pp. 88-89):

THE
PISSE-PROPHET,
OR,
CERTAINE PISSE-POT LECTURES.

Wherein are newly diſcovered the old fallacies, deceit, and jugling of the Piſſe-pot *Science, uſed by all thoſe* (*whether Quacks and* Empiricks, or other methodicall Phyſicians) who pretend knowledge of Diſeaſes, by the Urine, in giving judgement of the ſame.

By THO. BRIAN, M. P. lately in the Citie of *London*, and now in *Colcheſter* in ESSEX.

Never heretofore publiſhed by any man in the *Engliſh* Tongue.

Si populus vult decipi, decipiatur.

LONDON,
Printed by *E. P.* for *R. Thrale*, and are to be ſold at his ſhop at the ſigne of the Croſſe-Keyes, at *Pauls* gate.
1637.

I have here inserted another Epistle (*but not in Latine*) *from a Reverend Divine, unto his cunning* Æsculapius, *for his judgement of his wives Urine, to know whether she were with child or no: I have likewise set downe the Doctours answer, with an explication of the* Ænigmatized *fallacies, therein contained, darkning the judgement of the learned, and making a specious shew of a falsely assumed knowledge.*

Worthy Master Doctour, my kind love salutes you &c. My wife being neither sicke nor well, goes up and down the house, but is very puling: she hath a very nauseous stomach, loaths meat, and if she eate any thing (which is very little, or of some very strange dish) she is ready to vomit it up againe: she hath now twice missed (which she orderly enjoyed before) the naturall benefit of her monthly evacuation: ever since which time, that shee had

them last, she hath been thus ill; and for the same cause, that she hath missed them, shee suspects that she may be with child, or else is thus ill for want of them: I have here sent you her Urine, and desire you to vouchsafe to looke upon it, and to resolve us whether she be with child, or what other infirmity she doth labour of, that we may (if shee be not with childe) prevent a worse danger in time: I pray returne your answer in writing: and so with my best wishes for your owne wel-fare, that others may fare the better for you, I bid you fare-well, and rest

Your wel-wishing friend, *J.H.*

Reverend Sir, my best respects to your selfe and your wife, do kindly resalute you both; Your wife (you write) is neither sick nor well; you may then shift your hands of her, if you doe not like her, and tell her that you promised only to keepe her in sickness and in health; but however (good Sir) I am sorie, as she is not sicke, that she is not well, but not so much as otherwise I should be, because your kindnesse hath caused this neutrality of being neither sicke nor well. Her nauseousnesse of stomach, loathing of meat, and vomitting after, it will shortly cease, and the disease (which now troubles her stomach) will some seven moneths hence, be gotten into her armes. In the meane time it were not amiss for her to take something to corroborate her stomach, which she may very safely doe. I have viewed her water, and can say no more than I have done, unlesse to speak more plainely. I say with an ἐχειὴγαςρὶ she is with child, and almost a quarter gone, God send her a happy deliverance, when the time shall come, and (till then, and ever) health, and so prayes,

Your assured loving friend, *H.P.*

Blumenbach's Library

It has recently come to the attention of the Editor that the library brought together by Johann Friederich Blumenbach (1752-1840) of Göttingen has in large measure been kept intact and is now in the possession of Dr. Robert M. Herbst at Michigan State College to whom we are indebted for the information here recorded. The books have come down to him from his grandfather, Ernst Friederich Gustav Herbst (1803-1893) who had studied with Blumenbach and subsequently was for many years his colleague on the Göttingen medical faculty. Herbst was for some time librarian of the medical faculty and apparently through his anatomical studies and bibliophilic interests he became intimately associated with Blumenbach and his family. Blumenbach's library went to Herbst in 1840 either as a bequest or as a gift from Blumenbach's son.

So far as Dr. Herbst can tell, Blumenbach's first acquisitions of medical books were two items obtained in 1767 when he was fifteen or sixteen years old. They are Johann Conrad Amman's *Surdus loquens seu methodus qua, qui surdus natus est, loqui, discere possit* (Amsterdam, 1692) and Johann Conrad Peyer's *Parerga anatomica et medica (praeter id quod de glandulis intestinorum ante aliquot annos evulgavit) reliqua sex* (Amsterdam, 1682). The first book is signed on the title-page 'Jo. Fr. Blumenbach Gotha 1767' and the latter, 'J. Frid. Blumenbach Gotha 1767.'

After this date, particularly in the 1770's, acquisitions were frequent, and the date, place, and circumstance of acquisition were usually noted. Many of the books also have biographical notes about their authors written in Blumenbach's hand inside the front cover or on a flyleaf.

The library, which comprised several hundred volumes, has never been catalogued, but Dr. Herbst has examined it in particular to find out what Vesalian items it might contain. He reports the following: The Sessa edition of Günther's *Institutiones anatomicae,* the second folio edition of the *Fabrica* (1555), Valverde's *Vivae imagines* (Antwerp, Plantin, 1579 [1572?], the China-root Epistle (1546), and Galen's *Opera omnia* in the Froben edition of 1562. He lists a copy of Lancisi's edition of the Eustachian plates (Rome, 1714) and also a copy of the first edition (Frankfurt, 1628) of Harvey's *Exercitatio anatomica de motu cordis et sanguinis in animalibus* which bears the signature 'Jo. Frid. Blumenbach Goett. m. Mayo 1774, Natura species ratioque.'

Dr. Herbst writes further: "Also in the collection are a number of copies of Blumenbach's own writings very profusely annotated with marginal comments, possibly for reference in the preparation of future editions. Several copies of his own books are interleaved with blank pages for this purpose. The notes are variously in German, Latin, French, or English, apparently depending on the source of the subject matter. If someone were interested in the scientific thought of Blumenbach's time, these notes might be of some value."

Hebrew Prayer for the Doctor

Dr. Morton J. Robbins is to be congratulated for the English translation of the Hebrew "Prayer for the Doctor" and the Editor of the JOURNAL for reproducing it on pages 241-242 of the April 1954 issue. The following comments may be added to this particular theme.

The book "Sefer ha-Hayim" which contains the Prayer was written by Rabbi Simon Frankfurter (who died in Amsterdam in 1712) and supplemented by his son Moses of Amsterdam (1672-1762) who was an eminent Hebrew scholar and publisher (cf. his monumental *Biblia Rabbinica,* Amsterdam, 1724-1727). "Sefer ha-Hayim" comprises a large number of prayers related to disease and death as well as learned ritual explanations and moral teachings. At least eleven editions are known, one of the latest being that by Abraham Joshua Heshil Drucker of Lemberg who was of course not the author but printer of the book. Most of the editions do not indicate the name of Frankfurter as author, nor does the Sulzbach edition of 1791 do so; it is the latter which is being used by myself in the preparation of this note. Benjamin H. Asher of London translated it into English under the title of *The Book of Life* (London, 1847).

The Prayer precedes all other prayers (fol. 7 verso and 8 recto in the Sulzbach edition), thus marking its particular use. It is not included in the list of contents (on fol. 7 recto) and is not translated into Judaeo- German

(yiddish) as are the other prayers in Part II of the volume. So the special character of the Physician's Prayer is guaranteed by this editorial arrangement. In so far as its content is not purely theological it is based on the well-known, but lengthy, Physician's Prayer by Jacob Zahalon (1630-93) as found in his *Margaliyot tovot* (Venice 1665). An English translation of Zahalon's prayer is available in Harry Friedenwald's essay on Zahalon (*Jews and Medicine*, pp. 273-79, first published in 1917) and in Harry A. Savitz's "Jacob Zahalon and his Book The Treasure of Life" (*New Eng. J. Med.*, 1935, *213*, 167-176). A few passages are taken word for word from Zahalon. The influence of Zahalon on the Prayer did not escape the attention of the grand old man, H. Friedenwald, who was the first to mention it and who added rightly that the Prayer follows a similar line of thought. ("Ethics of the Practice of Medicine from the Jewish Point of view," *Jews and Medicine*, p. 27).

JOSHUA O. LEIBOWITZ

Chair of the History of Medicine, Padua

Professor Loris Premuda has been appointed to the Chair of the History of Medicine at the University of Padua. This chair was formerly occupied by Professor Arturo Castiglioni.

Dr. Campbell Honored

Dr. J. Menzies Campbell, 70 Great George Street, Glasgow, has been elected an Honorary Fellow in Dental Surgery of the Royal College of Surgeons of Edinburgh which was founded by a "Seal of Cause" granted by King James IV on 1 July 1505. This high honor, which will be conferred upon him at a ceremony to be held at a later date, is in recognition of his work as a dental historian.

Dr. Menzies Campbell is already an Honorary Member of *La Société Française de l'Histoire de l'Art Dentaire*. In 1952, the Senate of the University of Toronto offered him the honorary degree of Doctor of Laws, but due to ill-health he was unable to travel seven thousand miles, and the degree could not be conferred *in absentia*.

A Tribute to Carlos J. Finlay

The Cuban Ministry of Health and Social Assistance has been periodically publishing "Booklets on Sanitation History" under the direction of Sr. César Rodríguez Expósito, the official historian of the Ministry. The JOURNAL takes pleasure in noting this estimable method of arousing popular interest in public health. One of the booklets, a moving *Tribute to Finlay*, which Dr. Enrique Saladrigas y Zayas, the Minister of Health, presented at the First Inter-American Congress of Hygiene in Cuba in 1952, has been translated into English.

JOHN B. BLAKE

Translation of the Word FLAVUS

After publication of recent volumes on Michael Servetus the Editor of the JOURNAL received the following letter from Dr. Charles Singer which will be of interest to our readers.

I note that you and Professor O'Malley are both uneasy on the translation of the word *flavus* as the colour of arterial blood. I think, however, that your anxiety is needless and that it may be frankly and boldly rendered "red."

It has first to be remembered that delicate or even roughly exact colour discrimination—so far, at least, as terminology is concerned—is a quite modern thing. It is even more modern than musical discrimination, that is, appreciation of that progressive and almost unlimited development of a chord or passage that seems to begin with Palestrina. Neither medieval nor ancient people attached as exact a meaning to words for colour as we have learned to do in the last century—perhaps under the influence of the aniline dye industry—just as musical discrimination has developed under the influence of improved musical instruments. Even the great Renaissance artists and writers on art had a very poor vocabulary for colours, however sensitive they may have been, in practice, to colour itself. Their vocabulary of colour was not only small, but lacking in exactness and definition.

Secondly, we are peculiarly ill served by dictionaries for translation of medieval and Renaissance Latin aesthetic terms in general and colour terms in particular. Ducange can be ruled out as useless for this particular purpose and the Oxford word list is not much better. Nor does Souter's *Dictionary of Later Latin* help at all.

But thirdly and concretely, so far as the medieval glossaries themselves have been explored, the equation *flavus* = *rubens* = *rufus* = XANTHOS = PURROS = "red" is, in fact, quite firm. It is, I think, only our early classical school training that prevents us accepting it. It is not good classical Latin or Greek but it is straightforward medieval Latin. You can easily convince yourself on this surprising point by turning up the word *flavus* in that far too little known and used book, Georg Goetz' *Thesaurus Glossarum Emendatarum* (Leipzig, Teubner, 1899). I have been through the five earlier volumes of the *Corpus Glossarioum Latinorum* from which it is drawn, looking up the heading *flavus*, and find that it really is as I say. *Flavus* is more often *red*, even fiery red, than yellow, as is also XANTHOS. It surprised me quite as much as it may you and O'Malley. But so it is. The whole question of the poverty, inadequacy, and uncertainty of the ancient and medieval colour vocabulary (and, I think, colour discrimination too) is well worth much more searching treatment than is within my capacity.

Prize Essay in the History of Medicine

Henry and Ida Schuman of New York take pleasure in announcing an annual award of $250 for an original prize essay in the history of medicine. The donors point out that the term 'history of medicine' should not be too narrowly considered, i.e., that themes might range from fresh interpretations of the classical medical writers and their contributions (revealing the origins and growth of medicine and other sciences such as chemistry and physics) to social ideas in medicine and/or the relations between medicine and literature.

Medical students and internes in any American or Canadian institution are eligible for the award. Papers should run approximately 5,000 words in length and should be submitted by 1 May of each year to the *Journal of the History of Medicine* whose editorial board will pass on the suitability of the winning essay for publication in the JOURNAL at an early date.

Judges of the essay award will be: Dr. John F. Fulton, Professor of the History of Medicine, Yale University School of Medicine, New Haven, Connecticut; Miss Genevieve Miller, Assistant Professor of Medical History of Western Reserve University School of Medicine and Research Associate of the Cleveland Medical Library Association; and Dr. George Rosen, Professor of Public Health Education, Columbia University, New York City.

750th Anniversary of the Death of Maimonides

From 12-22 October 1954 the Redpath Library, McGill University, Montreal, displayed in six large exhibit cases a commemorative exhibit for the 750th anniversary of the death of Moses Ben Maimon, called Maimonides (1135-1204). The materials shown, consisting of books, periodicals, manuscripts, and pictures, were collected, arranged, and provided with explanatory notes by Dr. Mordecai B. Etziony, practising physician of Montreal. The exhibit was divided into the following categories: (1) memorabilia; (2) general works on philosophy, theology, jurisprudence, and ethics; (3) works about these; (4) medical works; (5) works about Maimonides' medicine; (6) the so-called "prayer of Maimonides" and its controversial literature. In addition there was a small display illustrating the influence of Maimonides in medieval and modern philosophy arranged by Professor R. Klibansky.

Dr. Etziony's exhibit was later shown at the Jewish General Hospital during the autumn convention of the Montreal Medico-Chirurgical Society, and at the Montreal Jewish Public Library.

LLOYD G. STEVENSON

Maimonides Commemoration in Cleveland

Dr. George Sarton was the principal speaker at a meeting on 13 December 1954 in the Cleveland Medical Library commemorating the 750th anniversary of the death of Maimonides, the physician and philosopher who was one of the greatest figures of the Middle Ages. The Rabbi Abba Hillel Silver discussed Maimonides' religious activities. The meeting was held under the sponsorship of the Howard Dittrick Museum of Historical Medicine. Dr. Sarton's address will appear in the January issue of the *Bulletin of the Cleveland Medical Library*, and free copies may be obtained from Miss Genevieve Miller, Cleveland Medical Library, 11,000 Euclid Avenue, Cleveland 6, Ohio.

Book Reviews

ERNEST JONES. *The Life and Work of Sigmund Freud.* Vol. 1 (1856-1900). New York, Basic Books, Inc., 1953. xiv, 428 pp. $6.75.

Reviewed by WINFRED OVERHOLSER, *Superintendent, Saint Elizabeth Hospital, Washington, D. C.*

THE influence of Sigmund Freud on psychiatry, on literature, and on the currents of popular thinking and feeling has been great indeed; this one must admit, whether he agrees with Freud's doctrines or not. For this reason a biography such as the present is emphatically in order.

The author, the dean of English psychoanalysts, was a close associate and friend of Freud for forty years; in addition, he has had access to many of Freud's personal letters hitherto not available. Dr. Jones, an experienced author, writes exceptionally well, so we have here an authoritative and at the same time eminently readable account of the period of Freud's life which covers what the writer terms "The formative years and the great discoveries."

Dr. Jones traces in detail the early influences exerted on Freud, his rather reluctant adoption of medicine as a career, and his exposure in medical school to teachers of high scientific integrity who were important factors in his later life and attitudes.

Freud's earlier work was in the fields of physiology and neuropathology. Turning then to neurology and stimulated by a year with Charcot, he wrote an important book on aphasia (1891) and several articles on such topics as infantile cerebral paralysis (1897). It was during this period that he experimented with the then new alkaloid cocaine in treating morphine addiction and came within an ace of going down in history as the discoverer of its value as a local anesthetic.

There was an overlapping of the psychiatric and the neurological phases, for immediately following his year with Charcot Freud began his studies on the dynamic rôle of the unconscious, the significance of dreams, and the theories of infantile sexuality which are the basis of psychoanalysis. He was an incisive thinker, a hard and persistent worker, unafraid of new ideas, but not given to sudden flashes of intuition (p. 324).

Although Dr. Jones is a great admirer of Freud, he does not paint him, for the most part at least, as a superman—a genius, yes, but a man of strong likes and dislikes and many neurotic symptoms which the author does not attempt to minimize. Nor does Dr. Jones neglect the important rôle which Freud's early experiences played in leading him to conclusions which are not universally accepted, to put it mildly!

The volume is of value not only to the student of psychoanalysis, but also to those who are interested in tracing the origins of new ideas. The author says (p. 247): "It is the rarest event—if it ever happens at all—for an 'original' idea to be purely spontaneous in origin, with no precursors of any kind. One reason why the present book is being written is in the hope of elucidating something in the processes in Freud's mind—that culminated in his discoveries." Dr. Jones is the man to do this, and the way he has done it causes us to look forward to the promised further volumes of this biography.

ANTONIO BENIVIENI. *De abditis nonnullis ac mirandis morborum et sanationum causis.* Translation by Charles Singer, with a Biographical Appreciation by Esmond R. Long. Springfield, Illinois, Charles C Thomas, 1954. xlvi, 217 pp. Ill. $6.75.

Reviewed by ILZA VEITH, *Assistant Professor of Medical History, University of Chicago, Chicago, Illinois.*

ALTHOUGH Benivieni (1443-1502) has long been known to have been among the founders of pathological anatomy, the translation of his posthumously published work fills a void in the history of pathology and the history of medicine in general. From Dr. Singer's translation of Benivieni's own words and from Dr. Long's sensitive Biographical Appreciation we receive a picture of an early Renaissance physician that is equalled by few.

Benivieni's search for the hidden causes of disease led him to undertake numerous necropsies at a time when post-mortem examinations were few and almost entirely restricted to the solution of legal questions. His interest in pathological anatomy, however, far from being an end in itself, was a means toward bettering himself in diagnosis and treatment. In the latter respect his practice was extended to the general field of internal medicine, to dermatology, to the solution of psychiatric problems, and even to gynecology and obstetrics, which up to his time had been the almost exclusive domain of midwives.

True to the spirit of his day Benivieni was guided by the ancient and newly revived authorities, and he described Galen as "by far the greatest physician." Yet his reverence for tradition did not blind him to new observations and findings that deviated from those of the old masters. Basically an adherent of humoral pathology, Benivieni was yet able to recognize psychic factors, such as fear as causative of physical disturbances; and in spite of his belief in the value of bleeding he was aware of its dangers in possible mismanagement.

The brief case histories described in "The Hidden Causes of Disease" are indicative of the variety of symptoms that came to the attention of a fifteenth century physician of high repute. Frequently they fail to elucidate the true nature of the disease, but they do show a breadth of interest, an openmindedness and a solid basis of knowledge that stands in almost touching contrast to the occasional references to miraculous healing.

De abditis morborum causis is Benivieni's only published work; its contents were chosen after the author's death by a Florentine physician, Giovanni Rosati, who had been commissioned for this task by Benivieni's brother, Geronimo. Thus, the full evaluation of Benivieni's medical contributions must await the analysis of his unpublished materials. In the meantime, we cannot be too grateful to the Doctors Singer and Long for having added much to our knowledge of this learned and modest humanist-physician who admired ancient authorities and yet extended the frontiers of medicine in his search for hidden causes of disease. Benivieni's profound humility is best expressed in his description of a patient whose case "seemed well-nigh desperate" and who "by God's grace . . . recovered perfect health."

ESTELLE BRODMAN. *The Development of Medical Bibliography.* Medical Library Association, Publication No. 1 [Baltimore], Medical Library Association, 1954. ix, 226 pp. $5.00.

Reviewed by W. B. MCDANIEL, 2d, *Curator of Historical Collections, Library of the College of Physicians, Philadelphia, Pennsylvania.*

EVERY science sits on its bottom, as it were, in tiers of parochial self-sufficiency, until bibliography—which guides us (in the sense here used) to what has been written on a given subject—endows it with a measure of cohesion, from which comes then, in due course, a sense of direction. Thereafter and forever, bibliography is the *sine qua non* of research scientifically pursued, its history a proper subject, at any given moment, for both practical and cultural attention. Medical historians have not by any means left the subject of the history of medical bibliography untouched, as readers of this journal well know, and as Dr. Brodman's references duly acknowledge; but her study, thoughtfully organized to cover both cultural and practical aspects, appears to be the most comprehensive and technically searching one on the subject yet published.

Having in mind the somewhat *omnium gatherum* character of the terms 'medicine' and 'bibliography,' the author has judiciously limited the scope of her investigation to independently printed lists, in the western languages, of books and journals pertaining to the general practice of medicine. The subdivisions of medicine are included only insofar as they figure in general lists and in the periodical abstract publications of more recent times. Catalogues, with the single exception of the *Index-Catalogue of the Library of the Surgeon-General's Office, U. S. Army,* and personal bibliographies are omitted. Even with these self-imposed limitations, Dr. Brodman has been able to compile an impressive and valuable list of 253 medical bibliographies published between 1500 and 1950, divided by century as follows: *16th,* 7; *17th,* 12; *18th,* 71; *19th,* 98; *20th,* 65. Only those—a relatively small number—which she regards as having made some fundamental or other interesting contribution to the development of medical bibliography

are discussed in the text, however. A doctoral thesis, this study had the advantages (as well as disadvantages) of a four-year gestation period during which (as at present) the author was in active service as Assistant Librarian for Reference Services at the Armed Forces Medical Library, Washington, D. C., and as Editor of the *Bulletin of the Medical Library Association.*

The text comprises five chapters. "For each bibliography discussed there will be a biographical sketch of the compiler; a description of the work which will emphasize advances in technique; and a discussion of the importance of this work in the history of medical bibliography." The first chapter, The Infancy of Medical Bibliography, discusses the sixteenth century 'fathers'—Champier, Brunfels, Paschalis Gallus, and Spach, with Gesner (the bibliography contained in his *Chirurgia*) included also, though out of scope, because of his general importance and his introductory use of analytics in printed medical bibliographies. In her second chapter, Development of Bibliographic Technique in the Seventeenth Century, discussing van der Linden, Lipenius, and Cornelius à Beughem, chiefly, Dr. Brodman finds that the seventeenth century "saw the culmination of medical bibliography predicated on the publication of medical works in monographic form and the first appearance of bibliographies taking into account publication of advances in medicine in periodicals."

The Golden Age of Individual Bibliographers (Chapter III) was, of course, that of Boerhaave, Haller, Ploucquet, with Callisen bringing it to a close. The nineteenth century brought the Development of Cooperative Bibliography (Chapter IV), which Dr. Brodman aptly terms the industrial revolution in bibliography—the compilation of bibliographies "by groups of workers toiling under the general editorship of an executive, using the books and journals owned by some institution, and published as a group project." This innovation is credited to the American, Joseph Henry, first secretary of the Smithsonian Institution, though its first concrete demonstration was achieved, as it happened, by the Royal Society in the publication of its *Catalogue of Scientific Papers.* A little more than a decade later, another American, John Shaw Billings, with the *Index Medicus* and the *Index-Catalogue,* became the major hero of this bloodless revolution and seemingly new golden age. In the same century, there was developed, largely under German hands, the abstract journal, designed to serve both as an index to the literature and as a short-cut to its content.

In her final chapter, The Present Situation, the author discusses the new techniques being devised to master bibliographically the enormous range of medical literature currently being published; wisely counsels us not to lose interest in attempts to effect pragmatic solutions, however imperfect and temporary, while pursuing the supposedly absolute ones awaiting us in the Elysian field of electronics.

In addition to the list of references (Appendix I) and the list of bibliographies (Appendix II) already mentioned, the apparatus includes copious

footnotes (at least one footnote reference does not appear in Appendix I); two indexes (author index to the bibliography; general); three plates (Billings; Ploucquet; Henry); seven figures, illustrating technical developments from Champier to punched cards; and two charts, which indicate the growth in periodical publication from 1800 through 1908. The Waverly Press has provided a pocket (large)-size format admirably conducive to picking up, carrying around, and reading.

It is clear that an immense amount of time, thought, and applied experience has been expended on this study, which auspiciously inaugurates the monographic publication program of the Medical Library Association, whose *Handbook of Medical Library Practice* has long served, among its other functions, as an uncommonly useful guide to the tools of medico-historical research. It seems to the reviewer that perhaps the only major fault to be found with the present book is an artistic one: the head on the target appears to change with a rather disconcerting regularity. The book's usefulness in training programs for medical librarianship can hardly be questioned. There is much in it to engage the attention of the egghead and the pinhead, both—but not at the same time. Those to whom the subject matter is not entirely a *terra incognita* will be particularly grateful, one would think, for the bibliography of the bibliographies; for the keen analysis of technical developments; for numerous illuminating tangential observations; and for the background and personal temper that enabled the author to deal with the "old and dusty titles" not as obsolete cairns but as early, still influential, members of a troublesome family that still contributes more than any other to the economic advancement of our knowledge.

A book containing so much bibliographical detail offers merry game for the gremlins. Their workmanship here is not obtrusive nor, apparently, mortal at any point. Insecurity in the management of one or another segment of the large canvas occasionally suggests itself, but, again, with only minor damage to the verities. When another edition is called for, the author may wish to consider (or reconsider) whether there would not be some advantage in presenting a completely chronological bibliography by entering the bibliographies chronologically under the centuries, rather than by author alphabet, particularly since the author-index provides a ready key to the page location. Again, the footnotes contain several rather lengthy quotations from the Latin, Dutch, German, and French. If bilingual versions are not feasible, it may be that English versions would prove the more serviceable.

In fine, this appears to be a little book that anyone interested in medical history would not want to be without. If its bullet should appear to lack absolute specific magic, the time is then to recall one of the *disadvantages* in the outwardly favorable conditions under which the study was conducted. There could, presumably, have been little time for moping, that too often undervalued little nursemaid of the muses.

SALADINO DI ASCOLI (c. 1430). *Compendium Aromatariorum.* The Book of the Pharmacists. Suessmann Muntner, Ed. First edition in Hebrew based upon a Hebrew MS. of the early XV. century [in Vienna]. 125 pp. in Hebrew, xv pp. in English. Tel Aviv, Machbaroth Lesifrut Publishing House, 1953.

Reviewed by GEORGE SARTON, *Professor Emeritus of the History of Science, Harvard University, Cambridge, Massachusetts.*

DR. Muntner is well known for his many studies on Hebrew medicine and particularly for his editions of the Hebrew translations of Maimonides' medical works (*Isis, 33,* 92; *34,* 243; *35,* 32, etc.). The editions already printed are only a part of those which are ready in typescript and which it was my privilege to examine when I visited him in his home and office near the Abyssinian Church in Jerusalem. I was happy to hear that these unpublished Hebrew texts have a good chance of appearing in the near future.

The present publication of the *Sefer ha-Roqḥim* is very welcome. The Latin form of it, *Compendium aromatariorum,* has been known for centuries. The princeps, published in Bologna, 1488, was followed a month later by another edition in Ferrara, and the text was reprinted thrice in Venice (1490-91, 1495, 1497), together with the *Opera* of Mesuë junior. There are thus no less than five incunabula editions (Klebs 876.1-2, 680.13-15).

The first two, the only ones devoted exclusively to Saladino, are of special interest. The princeps was printed by Henry of Haarlem in Bologna on 12 March 1488; it is a folio of 30 leaves, the last blank, 44 lines to a page; the second was printed by Andreas Belfortis in Ferrara on 5 April 1488; it is a folio of 22 leaves, the last blank, 51 lines to a page. These two editions which appeared almost simultaneously are independent; they are of equivalent value, but the first is finer. The Boston Medical Library has a copy of the first and the Historical Library, Yale University School of Medicine has a copy of the second; I beg to thank the librarians of both institutions for their generous help. Our two illustrations represent the title pages of these two earliest editions.

The first page reads

Domini Saladini de Esculo Serenitatis principis Tarenti phisici principalis aromatariorum compendum feliciter incipit.
Prohemium
Quia solet aromatariorum ignorantia, eorumque imperitia famosissimos doctores ac doctissimos medicos ad infamiam et vilipendium cum magno etiam eorum periculo saepissime trahere atque perducere . . .

The text of the second edition begins in the same way except for minor differences, e.g., in the title . . . "compendii aromatariorum opus. . . .

Many more editions, generally together with Mesuë, were issued through the sixeenth century and even later. The latest known to me is a Juntine of 1623. Mind you, that was an edition for medical use! There were also translations into Spanish (Valladolid, 1515) and Italian (Venice, 1559). The

Domini Saladini de Ascalo Sere/nitatis principis Tarenti phisici principa/lis aromatariorꝫ ꝯpẽdium feliciter incipit.

Prohemium.

Via solet

q aromatariorum ignorã/tia: eorumqꝫ impericia famosissimos doctores ac doctissimos medicos ad infamiam ⁊ vilipendium: cum magno etiam eorum periculo sepissime trãbere atqꝫ perducere: ideo pietate motus in me/dicos pmolitus pcibus pluriũ aromatario/rum conscenderem: ⁊ precipue solertissimi viri. T. Serenitatis Illustrissimi domini mei principis Tarenti aromatarij dignissi/mi. decreui Ego Saladinus artiũ ⁊ medi/cine doctor eiusdẽqꝫ serenitatis phisicus cõ/pendiosum hunc tractatuꝫ componere quẽ compendium aromatariorꝫ intitulari vo/lo: quo ipi aromatarij examinari debeant ⁊ si sufficientes ⁊ experti fuerint volo q̃ a peritissimis medicis approbentur. Si ve/ro insufficientes ⁊ ignari: ⁊ in ipsa examia/tione tanquaꝫ inexperti defecerint: tunc pe/nitus reprobentur: ⁊ pena condigna puniã/tur: cum ⁊ ipsi habeant de vita ⁊ sanitate hominum pertractare: que quidem sanitas omni thesauro mũdi cariorꝫ exístit: nõ qz tu hoc nostro libello opus habeas: cum sis ar/te ⅋ experimẽto bene cõficiendi comproba/tus: sed volui tibi tanquam digniori ⁊ exp/to eum libellum destinare: vt eorum rudio/res instruas: qui solitus es tua pericia no/nullos etiam medicos in dispensando diri/gere.

Diuisio libri.

Iuiditur aũt

hoc opusculum in septem par/ticulas.

Quarum prima tractat quasdam ex/trauagantes: ⁊ generales interrogationes vtiles aromatarijs: ⁊ cum hoc multas in/terrogationes. ⁊ dubia ac declarationes ponit circa antidotarium Mesue.

Secunda particula erit de nominibus medicinarum compositarũ in antidotario nicolai descriptarum cum earum declara/tione fm ordinem alphabeti: ⁊ incipit ab aurea alexandrina.

Tertia particula est: de ponderibus ⁊ do/sibus medicinarum ⁊ de nominibus põ/derum sigillatim que doctrina est valde ne/cessaria ipsis aromatarijs.

Quarta particula erit de modo cõficiẽ/di confectiones. electuaria. iuleb. syrupos. vnguẽta. ⁊ cetera.

Quinta particula est de colligendis herbis. floribus seminibus ⁊ radicibus: ⁊ in quo tempore ⁊ in quo mense anni.

Sexta particula est de conseruatiõe tã/ simpliciũ q̃ cõpositarũ medicinarũ pcipue fm Mesue serapionem Nycolaum seruito/rem. In qua particula prope finem eĩ po/nitur doctrina ⁊ modus reponendi ⁊ cõser/uãdi res humidas: sicuti sunt succi mel gũ/me liquide: ⁊ electuaria liquida laxatiua ⁊ similia. ⁊ in quibus vasibus.

Septima ⁊ vltia particula erit de mo/do ordinandi aromatariam cum omnib⁹ rebus necessarijs in ea: ⁊ sic finietur deo vo/lente compendium aromatariorum.

Sequitur prima particula de interro/gationibus fiendis per medicũ. an aroma/tarius sit sufficiens nec nõ.

Incipit er

i go prima ptícula. ⁊ pri/mo incipiunt quedaꝫ vti/les interrogationes me/dicorũ ad aromatarios

Primo igitur aromatarius examinãd⁹ a medico interrogãdus erit: quod est officiũ

a

Fig. 1. Title page or first page of the first edition of Saladino's *Compendium*, Bologna, 12 March 1488 (Klebs 876.1). Courtesy of Boston Medical Library.

Nomini Saladini de eſculo Serenitaſ principis tarenti phiſici principalis compẽ dij aromatariorum opus feliciter incipit.

Quia ſolet aromatariorꝫ ignorantia eorumqꝫ imperitia famoſiſſimos doctores.ac doctiſſimos medicos ad infamiã ⁊ vilipendium cum magno ẽt eorꝫ periculo ſepiſſime trahere atqꝫ perducere. Ideo pietate motus in medicos.⁊ vt precibus pluriuꝫ aromatariorꝫ cõſcenderꝫ ⁊ p̃cipue ſolertiſſimi viri. T. ſerenuaſ illuſtriſſimi dñi mei principis tarenti aromatarij dignißimi. Ego Saladinus artiũ ⁊ medicine doctor eiuſdẽ ſerenitaſ phiſicus propoſui hunc tractatũ cõponere quẽ cõpendium aromatariorꝫ intitulari volo. quo ipſi aromatarij examinari debeant.⁊ ſi ſufficientes ⁊ experti in arte eorꝫ fuerint.volo q̃ a peritiſſimis medicis approbent. Si vero inſufficientes ⁊ ignari.⁊ in ipſa examinatiõe tãqꝫ inexperti defecerint.tũc penitus reprobẽt ⁊ pena cõdigna puniant. Cũ ⁊ ipſi habeãt de rebus ⁊ ſanitate hominũ ptractare.quecq dez ſanitas eſt oĩ thesauro mũdi cariori. nõ q̃ tu hoc noſtro libello opus habeas cũ ſis arte ⁊ nãli prudentia predictuſ ⁊ expim℞to bene cõficiendi compbatus. Sed volui tibi tanqꝫ digniori ⁊ experto cũ libellũ deſtinare vt eorꝫ radiores inſtruas q ſolitus es tua peritia nouellos etiã medicos in diſpenſando ⁊ in ordinando dirrigere.

Diuiſio libri.

Diuidit aũt hoc opuſculũ in ſeptẽ partículas. Quarꝫ prima tractat quaſdã extra neg̃tes ⁊ generales interrogatiões vtiles aromatarijs. cum hoc etiã multas interrogationes ⁊ dubia.ac declaratiões ponit circa antidotariũ Mueſue. 2ª particula erit ð nõibus medicinarꝫ cõpoſitarꝫ in antidotario Nicholai deſcriptarꝫ cũ eaꝫ declaratione ſ̃z ordinẽ alphabeti.Et incipit ab aurea alexandrina. 3ª particula eſt de ponderibus ⁊ doſibus medicinarꝫ.⁊ de nõibus põderum ſigillatiꝫ que doctrina eſt valde neceſſaria ipſis aromatarijs. 4ª particula erit de modo cõficiẽdi cõfectiones.electuaria. iulep.ſyrupos.vnguenta.⁊c. 5ª particula eſt de colligendis herbis.floribꝫ.ſemibꝫ.⁊ radicibus.⁊ in quo tempe ⁊ in quo mẽſe anni. 6ª particula eſt de cõſeruatione tã ſimpliciuꝫ q̃ cõpoſitorꝫ p̃cipue ſ̃z Mueſue Serapionẽ. Nicholai ſeruitorẽ.i qua particula ppe finẽ eius ponit doctrina ⁊ mod' reponẽdi ⁊ cõſeruãdi res humidas ſic̃ ſunt ſucci vel gũme liquide ⁊ electuaria liquida laxatiua ⁊ ſ̃imilia.⁊ in quib' caſib'. 7ª ⁊ vltima particula erit de modo ordinandi aromataria cũ oĩbus rebus neceſſarijs in ea. Et ſic finietur deo volente compendiuꝫ aromatariorum.

Prima particula ẽ ð vtilibus interrogationibus ad aromatarios fiendis ⁊c.

Incipit ergo prima particula.⁊ primo incipiũt quedã interrogatiões vtiles medicorꝫ ad aromatarios. Primo igit aromatarius examinandus a medico interrogãd' erit quid eſt officiũ aromatarij. Reſpondeo ⁊ dico q̃ officiuꝫ aromatarij eſt terere ablnere.infundere.coquere.diſtillare.bene ſ̃icere.⁊ ſ̃iecta bñ ſ̃eruare pp q̃ oia. Dico vlteri' q̃ arõatarij tenẽt ſcire gramaticã vt valeãt bñ itelligere diſpẽſatões receptarũ ⁊ antidotariũ ſcie medicine. 2º medic' i hac arte iterroget qual' oꝫ ẽe arõatari' p hec verba. Dico q̃ arõatarius nõ debet eſſe puer nec valde iuuenis neqꝫ ſuperbus põpo'us ãt mulieribus ⁊ vanitatib' deditus Aludo etiã ⁊ vino ſit aliẽus ⁊ ſobrius nõ intẽdẽs crapulis ⁊ cõuiuijs vacare. ſed ſit ſtudioſus ſollicitus placabilis ⁊ honeſt' timens deũ ⁊ cõſcientiã ſuam. Sit rectus in ſtus.pius.⁊ maxime ad pauperes. Sit etiã benedoctus ⁊ exprtus in arte ſua. Nõ nouellus ⁊ radis. qz bẽt tractare ð vita hominum que eſt reb' oĩbus mũdi cariori. Nõ ſit cupidus nec auarus. nec extremus amator peccunie.ne videat oia p peccunijs facere ut auari faciunt. Nõ etiã vendat res cariori precio q̃ cõpetenti. qz melius ẽ modicũ iuſte q̃ multũ cũ maledictione a pauperibus extorquere. Sit etiã aromatarius fidus maturus ⁊ grauis bone conſcientie ut predixi.ut nec amore timore vel pretio p̃ſumat aliquid facere cõtra cõſcientiã ⁊ cõtra honorem medici.videlicet ut nõ ꝓpinet alicui mulieri pregnãti medicinas aborſũ procurantes.⁊ ſimiliter q̃ nec timore dñorꝫ aut

Fig. 2. Title page or first page of the second edition of Saladino's *Compendium*. Ferrara, 5 April 1488 (Klebs 876.2). Courtesy of Yale Historical Medical Library.

only modern edition is that by Leo Zimmermann, together with a German version (Leipzig, J. A. Barth, 1919, 150 pp.; *Isis, 3,* 330). Zimmermann's text is based not upon the incunabula but upon a much later edition prepared by Andreas Marinus (Venice, Valgrisius, 1572).

It may be questioned whether the original text was in Hebrew or in Latin. Although certainty is out of the question, Dr. Muntner seems to incline to the first hypothesis, while I am rather inclining to the second.

One may grant that the author, Saladino Ferro d'Ascoli, was a Jew, though his name is Arabic-Latin (Saladino stems from Ṣalāḥuddīn, and Ferro from *ferrum,* iron). The name Ascoli (d'Ascoli, Dascoli) is a famous Jewish name, at least from the fifteenth century on until our own day, but in Saladino's case, as in the earlier one of Cecco d'Ascoli (XIV-1), we may assume that it was simply an indication of origin. Saladino was born perhaps (like Cecco) in Ascoli Piceno nelle Marche or more probably, further south, in Ascoli Satriano, Apulia. He was archiater to Giannantonio Orsini del Balzo, prince of Taranto, from 1419 to 1463; he was in Bari in 1448 (Taranto and Bari are both in Apulia). He may have made a Hebrew draft, but it is highly probable that his final redaction was in Latin, for the Prince and his courtiers would understand Latin and Italian but not Hebrew. My conviction that the original text was Latin is strengthened by the fact that Saladino did not use the Hebrew sources, such as Asaph Judaeus, Shabbethai ben Abraham Donnolo (X-2), or Ḥasdai ben Shaprut (X-2). If he had been capable of writing in Hebrew, he would have been equally capable and eager to read Hebrew books.

His sources seem to have been exclusively Latin (including of course Greek and Arabic treatises in Latin translation). The main ones were in order of importance the *Antidotarium sive Grabadin* of Mesuë the Younger, that is, Māsawaih al Mārdīnī (XI-1), the *Antidotarium* of Nicholas of Salerno (XII-1), Dioscoridēs, and Galen. He might have read some of these texts in Hebrew; the *Antidotarium Nicolai,* which was exceedingly popular, had been Hebraicized at least twice and perhaps four times. One Hebrew translation of the thirteenth century (?) was made by Jacob ha-Qaṭan;[1] Dr. Muntner has prepared an annotated edition of it, which will soon be published, I hope, because it would be interesting to compare it with the *Sefer ha-Roqḥim.*

To return to the latter, its significance will be realized when we repeat the old assertion that it is the first modern treatise on pharmacy. The same assertion has been made about the *Antidotarium Nicolai* and is a little vague, for what do we mean by modern? What is certain is that the *Antidotarium Nicolai* is the root of Saladino's treatise and indirectly of all the later pharmacopoeias.

Saladino's treatise is divided into seven *particulae,* the contents of which are roughly as follows:

[1] Renan speaks of the translation by Jacob haq-Qaton (= minimus), but does not date it, nor identify the translator. Les rabbins français (*Histoire littéraire,* 1877, 27, 624).

I. De utilibus interrogationibus ad aromatarios fiendis . . . (how to examine would-be pharmacists). Technical and moral obligations of the pharmacist. Professional honor.

General scientific knowledge required of him. Contents of Mesuë's book. Various technicalities.

II. Scientific knowledge derived from the *Antidotarium Nicolai*. Explanation of the terms (Latin and Greek) used in it. This part is lacking in the Hebrew text.

III. Doses, weights, and measures.

IV. Proportions of main drugs and ingredients.

V. Gathering, drying, and preparation of herbs.

VI. Preservation of drugs. General rules and special ones concerning individual drugs.

VII. List of the simple drugs (vegetal, animal, and mineral) which the pharmacist should have in stock. Composed drugs.

Irrespective of the abundant technical information which it contains, the *Compendium* is a landmark in the organization of a profession which was then relatively new. To the data which I have already given on the subject[2] may be added the following taken from Dr. Muntner's Introduction. The first pharmacies were established in Arles,[3] Provence, at the opening of the thirteenth century, and the *Statuta sive leges municipales Arelates* determined the dividing line between doctors and pharmacists and their reciprocal duties. Similar regulations in Venice date back to 1258, and those of Florence are earlier still. Some herbgatherers, herbdealers,[4] or druggists specialized in seeds (*seminarii*), perfumes (*aromatarii*), powders (*thuarii*), herbs and medicines (*pigmentarii*), ointments (*seplasiarii*), but these words became more or less interchangeable. In particular, the *aromatarii* in the title of Saladino's book means not simply dealers in aromata or perfumes but pharmacists. The same extension of meaning occurred in Arabic, ʿaṭṭar, literally a seller of perfumes, became and still is the name of a druggist or pharmacist. Another curious evolution was that of the Greek word apothēcē, a repository of books or other goods, a shop, later a drugshop.[5] We say druggist or pharmacist, but various forms of the word apothecary are commonly used in German, Scandinavian, and other languages.

The *Sefer ha-roqḥim* was probably written at about the same time as its Latin equivalent; it is very pleasant to have it at last in printed form, 465 years after the Latin princeps. As long as a text remains in MS, it is

2 For details and bibliography concerning the pharmaceutical knowledge and profession just before Saladino's time, see my *Introduction* (3, 288-90, 1241-42).

3 The importance of Arles in the thirteenth century has been explained apropos of Bodenheimer's translation of the Shaʿar hashamayim (Jerusalem 1953; *Isis*, 45, 113-15).

4 The profession of "herboriste" still exists in France; its exercise requires a special diploma, much easier to obtain than that of "pharmacien."

5 A curious semantic deviation of Apotheker (Nothhelfer) is discussed in my *Introduction* (3, 1666).

unknown except to very few scholars; when it is printed it comes to life again. I wish the news could be communicated to Saladino who has been very uncomfortable for five centuries; I wish we could tell him that now, thanks to Dr. Muntner's sacrificial labor, he may relax!

ALEXANDER WOOD, completed by FRANK OLDHAM. *Thomas Young, Natural Philosopher, 1773-1829.* Cambridge, the University Press, 1954. xx, 355 pp., 3 plates, 24 text figures. $6.00.

Reviewed by TALBOT H. WATERMAN, *Associate Professor of Zoology, Yale University, New Haven, Connecticut.*

I remember, when I was a college student, hearing Professor George Sarton describe two extremes of intellectual temperament in great scientists—one classic and the other romantic. In the research and publications of the classic type there is a structural unity, a development of detail, and an organized steadfastness of interest in one particular area of science. The romantic type of scientist, in contrast, ranges brilliantly over a number of subjects, illuminating by crucial experiment or intuitive insight one scientific field after another. The research output of the classic type might be likened to the formal pattern of a sonata or a sonnet while that of the other is rather like a rhapsody or free verse.

Although, as I recall, he did not do so, Professor Sarton might well have used the subject of the scientific biography here reviewed as the model for his romantic scientist. For the English Quaker, Thomas Young, provides an example *par excellence* of the intellectual temperament which ranges with astonishing versatility and rewarding acumen in many departments of science and indeed in some fields well outside the customary bounds of that discipline. His pioneer and important contribution to the deciphering of the Rosetta stone is the prime example of the latter sort. Here Young's precocity in linguistics, his intense and efficient application to scholarly work, and his intellectual wanderlust combined to establish the basic understanding of Egyptian hieroglyphic and demotic writing, an understanding which had been lost since the fourth century A.D.

Scientifically, Young first attained prominence while he was still a student, through publication of a paper on the accommodation of the human eye. In it he claimed correctly that changes in shape of the lens were responsible for the eye's change of focus although he was in error in attributing the work done to intrinsic muscular tissue believed present in the lens itself. The merit of this contribution won its author election to the Royal Society of London at the age of twenty-one. (He was later to be its Foreign Secretary for many years.)

Other important discoveries in physiological optics added to the security of Young's place in the history of biology. He discovered astigmatism and supported his explanation of it with critical measurements. He also correctly estimated the chromatic aberration of the eye's dioptric elements. In 1801

he suggested the first physiologically cogent hypothesis for the sensory phenomena of color vision. This explanation, now called the Young-Helmholtz theory, is still fundamental to even the most recent electrophysiology and biochemistry in this field. Other important contributions were made in the fields of hemodynamics, nosology, and medical bibliography.

In physical optics, too, Thomas Young was also a contributor of the first rank. He and his contemporary Fresnel were responsible for establishing the wave theory of light on a firm foundation following Huygens' initial essays in this direction. Both men were likewise pioneers in the study and explanation of light interference.

By profession Young was, for much of his life, a practising physician. Most of his research and publications were done in spare time. To prevent the public from thinking he was frittering his time away in non-medical pursuits, many of his scientific papers were published anonymously. This ruse apparently did not prevent his practise from being of but indifferent size and prosperity, whether from this or other causes.

In setting forth these and many other facets of Young's life Alexander Wood and his posthumous collaborator, Frank Oldham, have developed a fascinating subject. Although neither brilliant biography in a literary sense nor always strict in some of its scholarly detail (e.g., the important 1793 paper on accommodation does not appear in the list of Young's published work, Appendix III), the book is one which will stir the interest of many readers whether from its pertinence to their own field of activity or from its subject's general significance in the history of science.

The authors have introduced the various technical fields discussed with appropriate orienting material and have closed most of them with a careful appraisal of Young's own contributions, based on their judgment and on that of outstanding specialists of the present day. The volume is well illustrated by halftone plates and text figures. There are three appendices, a brief subject index, and an index of names.

Douglas McKie. *The Essays of Jean Rey*. A facsimile reprint of the original edition of 1630. With an introduction by Douglas McKie. London, Edward Arnold and Co., 1951. 144 pp. 21s.

Reviewed by the editor.

It was appropriate that Dr. Douglas McKie, the eminent Lavoisier scholar of University College, London, should revive interest in Jean Rey, who was probably the first to raise the question of why minerals increased in weight when they were subjected to fire in the presence of air. The original edition of Jean Rey's *Essays* is one of the greatest rarities in the history of science, published at Bazas by Guillaume Millanges, Printer to the King, in the year 1630, and bearing the significant subtitle, *Sur la recherche de la cause pour laquelle l'Estain & le Plomb augmentent de poids quand on les calcine.*

Born in Provence about 1582, Rey studied medicine at Montpellier and obtained his M.D. there in 1609. As Dr. McKie points out, it is a curious

coincidence that he came of a family of small landowners and tax-farmers and was thus connected, as was Lavoisier, with the French fiscal system. "Lavoisier's association with the Tax Farm cost him his life in the blindly revengeful hours of 1794." But on this score Rey was far more fortunate than Lavoisier. The question which Rey posed in the subtitle of his *Essays,* namely, why tin and lead increase in weight when calcined, was expressed in simple and direct terms, i.e., that this increase comes from the air, "which in the vessel has been rendered denser, heavier, and in some measure adhesive, by the vehement and long-continued heat of the furnace."

Good facsimiles of classics in the history of science, well edited by competent investigators such as Dr. McKie, are still much needed. We owe Dr. McKie a debt of gratitude for providing us with this one.

ERIK JORPES & OLOF RAMGREN. *Kemiska Institutionen vid Kungl. Karolinska Medico-kirurgiska Institutet i Stockholm intill 1953.* Stockholm, P. A. Norstedt & Söner, 1954. 207 pp., illus.

Reviewed by ADOLPH B. BENSON, *Professor Emeritus of German and Scandinavian, Yale University, New Haven, Connecticut.*

As the title indicates, this elegant volume, beautifully bound and on excellent paper, is a history of the chemical department of the Royal Karoline Medico-Surgical Institute in Stockholm, Sweden, up to 1953. Besides a record of specific accomplishments of the Department during that period, including lists of publications, the history contains, for instance, a list of foreign students and guests who have attended its lectures and profited by its laboratory opportunities, and a bibliography of learned journals in the local library. Sixty-three illustrations grace the work, including maps, plans, plates, reproductions of sites, buildings, and scientific equipment, and portraits of prominent academic personnel. Much space, naturally, is devoted to a detailed description of the new building of 1951.

While the second part of the volume undoubtedly is the most useful to modern research students seeking physical laboratory detail or new chemical problems, the introductory section of the first part is the most interesting. This deals, first of all, with the pioneer work of Urban Hiärne (1641-1724), dramatist, chemist, and ardent anti-witchcraft agitator, who in 1683 succeeded in obtaining a royal "decree" for his "laboratorium chymicum," an institution which soon won European acclaim. Secondly, we have a review of the life and work of the internationally known Jöns Jacob Berzelius, who suggested in 1813 among other contributions, the chemical nomenclature now in use. (The reviewer assumes, incidentally, that Berzelius Hall at Yale is named after him.)

Of special interest to the scientific world is the fact that beginning with the year 1942 all doctoral dissertations of the institution in question have been written in English (see pp. 86-88). This is significant. A brief examination of the linguistic problem seems to indicate that English is now the most

popular medium of expression in chemical, and probably in all scientific, investigations in Sweden.

JOHN L. THORNTON. *John Abernethy. A biography.* London, printed for the author; distributed by Simpkin Marshall Ltd., 1953. 184 pp. 25s.

Reviewed by the EDITOR.

JOHN Abernethy, an able and daring surgeon who died in 1831, was one of the more colorful figures in British medicine and surgery in the early nineteenth century. A previous life by George Macilwain, *Memoirs of John Abernethy,* which appeared in 1853, left much to be desired, and Mr. Thornton, the Librarian of St. Bartholomew's Hospital Medical College, well known for his recent contributions to medical history, has had access to new and important material concerning Abernethy which he has used effectively, and he now gives a far more complete picture than any of Abernethy's earlier biographies. In his Preface he mentions Asquith's dictum, "The true biographer is not a judge," which is in line with the similar dictum of Goethe, "Je ne juge pas; je raconte," and in this spirit he gives us unadorned details concerning the life and activities of the great London surgeon, unadorned except for the fine illustrations. All admirers of Abernethy will feel much in Mr. Thornton's debt.

BÉLA BALASSA. *A Kossuth-Idök Hazafias Orvosai.* München, Karpathia Kiado, 1954. 104 pp., ports.

Reviewed by JOSEPH REMÉNYI, *Professor of English and Comparative Literature, Western Reserve University, Cleveland, Ohio.*

SUPERFICIAL knowledge or none at all about the culture of a foreign country plays into the hands of propagandists who flourish on confusion and gullibility. One therefore welcomes a book which acquaints the reader with the cultural contributions of a nation; in this case, with Hungary and her position in the field of medicine. *"Kossuth-Idök Hazafias Orvosai"* (*The Patriotic Physicians of the Kossuth-era*) by Béla Balassa serves such purpose.

The material is bound together by a central theme, namely, the medical and political service of physicians (native born and foreign born alike) during the Hungarian War of Freedom in 1848-49. Considerable research was necessary to produce the volume. The narrative tone gives the study an almost fictional character without detracting from its factual reliability.

In the first part the author makes a survey of the primitive stage of Hungarian medicine in the Middle Ages and its advancement in the later centuries; in the third part he discusses the lot of Hungarian doctors as émigrés and their lot after their return to their native land. The really important section is the second one, in which the constructive activities of the physicians in the critical times of 1848-49 are discussed. The author informs us about a member of his family, János Balassa, the distinguished surgeon,

who was close to Kossuth as a medical adviser; he also related the significance of other outstanding physicians and medical scientists in this period of Hungarian history and in the later decades, such as *Lumniczer, Korányi, Bòkai, Markusovszky, Hirschler, Semmelweis, Lenhossek, Jendrassik, and Wagner.* He pays tribute to the less known but very active physicians who helped to develop respect for the medical profession among their compatriots. Balassa's concern is with the medical and human qualities of the physicians, their sturdiness, and sacrificial spirit, and their ability and willingness to cope with sometimes incredible difficulties. The personal and socially relevant data about other Hungarian patriots add to the interest of the book, completed by photographs and a colored cover.

The former Surgeon-General of the Hungarian Army, Dr. Abris Barchay (London), wrote the introduction, and Lt. Colonel Dr. Francis C. Mayer, MC-USAR (Washington, D. C.), wrote the foreword.

It is to be hoped that in the not too distant future there will be an English translation of this informative study—informative for physicians as well as for laymen.

BRUNO KISCH. "Forgotten Leaders in Modern Medicine: Valentin, Gruby, Remak, Auerbach." *Transactions of the American Philosophical Society,* 1954, *44,* 137-317. $2.00.

Reviewed by the EDITOR.

DR. Kisch, who occupies the Chair of Philosophy and History of Science at Yeshiva University in New York, is to be congratulated on having published this well-illustrated monograph on four important figures, two of whom—Remak and Auerbach—are known eponymically through structures that still bear their names, but none of the four is well known biographically, even to historians of medicine and physiology. The story of each one is objectively told, but in each case the record is a poignant one because it illustrates the relentless growth of anti-Semitism in the German state and in academic institutions during the second half of the nineteenth century.

DONALD FLEMING. *William H. Welch and the Rise of Modern Medicine.* Boston, Little, Brown and Company, 1954. 216 pp. $3.00.

Reviewed by EDWARD H. HUME, *retired medical missionary to China, New York, New York.*

THIS is an analytic biography of a great man, a great institution, and a great tradition, all written in excellent form. The whole of our American culture is enriched by such a record. Professor Fleming deserves the gratitude of all who are concerned with top level performance in medical education and medical history. Oscar Handlin, the general editor, well says that it is planned in this series that the man whose biography is presented shall be

viewed neither as the maker of his times nor as their product, but each as a force reacting on the other.

Dr. Welch was a classmate of my father's at Yale in 1870, and I grew up to think of him with great confidence and intense admiration. Few knew how thoughtful he was towards his students. For example, a note came to me from him after I had been but a few days in Baltimore in September, 1897, asking me to have dinner with him at the Maryland Club. In the middle of the evening, he said to me, "I know how short of funds you are, so I have cut the signature off a number of your letters to me and pasted them on a bank deposit card. With the card I have deposited $300 in the bank for you. I hope you will never need to draw on it; but there it is for you, to give you something to fall back on."

It was an extraordinary group assembled at Johns Hopkins under President Gilman; Welch and Mall, Abel and Howell. All of the initial high-level appointments to the medical school had been made, and not one was a mistake; not one man was less than first-rate, all played an important rôle in the building of the university structure. As we review the choices on the medical faculty, "the initial appointment of Welch was the pivot on which the whole success turned. By his own continued presence, Welch, more than any other man, gave to the medical faculty the corporate morale needed."

By 1925, when Welch's friends suggested that there ought to be a chair of the history of medicine at Johns Hopkins, he agreed at once with great enthusiasm, for it had been his dream to have a central library for the hospital, medical school, and school of hygiene, and, in connection therewith, an endowed chair of the history of medicine, not merely as a cultural centre, "important as that is, but as a real adjustment of the development of scientific medicine."

By 1950, when he was eighty years old, it was possible to say, "every purpose for which Welch had ever sought money from a foundation had now been fulfilled." In the spring of 1925 a group of physicians gathered at the home of Dr. Walter B. James in New York to plan for the medical school to be developed by Yale men in central China. Welch of course, was one of those present, and I had the chance to urge him to see Edward S. Harkness, a classmate of mine, about the need of funds for the institution in China. "Yes," he replied, "I have already made a date with him." By this time Welch had already extended his influence to Asia. He had made two visits to China and had left his mark on medicine there as he had on medicine in America.

When he died on 30 April 1934, Welch had just turned eighty-four, "having lived from the world of *Middlemarch* into the world of *Arrowsmith*. From the amplification of the moral dilemmas of the man of scientific medicine, he had saved himself by self-knowledge and unfailing humility in the presence of research."

ANTONI VAN LEEUWENHOEK. *The Discovery of Unicellular Life*—excerpts from communications to the Royal Society of London (September 7, 1674 & October 9, 1676). Foreword by A. J. Kluyver. Waltham, Mass., *Chronica Botanica*, 1954. 15 pp. Free.

Reviewed by the EDITOR.

THIS attractive brochure issued by the editors of *Chronica Botanica* on the occasion of the dedication of the Institute of Microbiology of Rutgers University, New Brunswick, New Jersey, in June 1954, is prefaced by a foreword of Dr. A. J. Kluyver in which he reminds his readers that the world of microbes, although introduced originally by Leeuwenhoek in his letter to the Royal Society on 7 September 1674, was not really fully recognized until the nineteenth century when Pasteur made his fundamental discoveries in this *Antoni van Leeuwenhoek* issued in Vols. 1 and 2 (1939, 1941), edited by a Committee of Dutch Scientists and published by Messrs. Swets and Zeitlinger, Ltd., of Amsterdam. The text of the letters is well documented by footnotes of Dr. Kluyver and his associates.

Copies of this Leeuwenhoek keepsake are available without charge from The Chronica Botanica Co., Waltham 54, Massachusetts, U.S.A.

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